

ŠKODA

Workshop Manual

Fabia II 2007 ➤ , Fabia II 2009 ➤ ,
 Fabia II 2011 ➤ , Octavia II 2004 ➤ ,
 Octavia II 2010 ➤ , Rapid NH 2013 ➤ ,
 Roomster 2006 ➤ , Yeti 2010 ➤ ,
 Yeti 2011 ➤

1,2/63; 77 kW TSI Motor					
Engine ID	CBZ A	CBZ B	<small>Protected by copyright. For commercial purposes, in part or in whole, is not permitted used by ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.</small>		

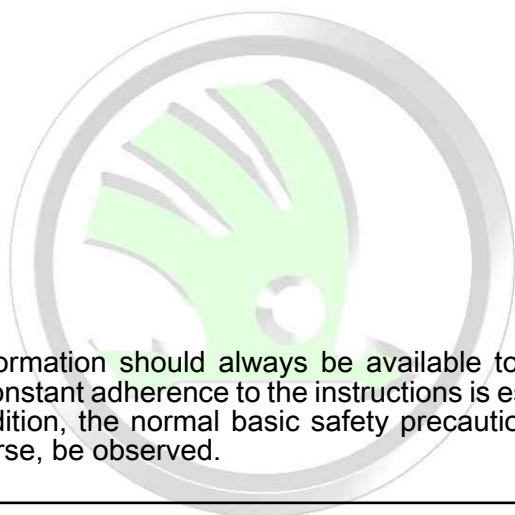
Edition 12.2017

List of Workshop Manual Repair Groups

Repair Group

- 00 - Technical data
- 10 - Removing and installing engine
- 13 - Crankshaft group
- 15 - Cylinder head, valve gear
- 17 - Lubrication
- 19 - Cooling
- 20 - Fuel supply system
- 21 - Turbocharging/supercharging
- 24 - Mixture preparation - injection
- 26 - Exhaust system
- 28 - Ignition system

ŠKODA



Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

All rights reserved.

No reproduction without prior agreement from publisher.

Copyright © 2018 ŠKODA AUTO a. s.

D3E803ADF52

Contents

00 - Technical data	1
1 Identification	1
1.1 Engine number	1
1.2 Engine characteristics	1
2 Safety instructions	3
2.1 Self-diagnosis	3
2.2 Safety precautions when working on fuel supply system	3
2.3 Reducing pressure in the high pressure system	4
2.4 Safety precautions during road tests in which testing and measuring equipment is used	5
2.5 Safety precautions when working on the injection system	5
2.6 Safety precautions when working on ignition system	6
2.7 Safety precautions when working on cooling system	6
3 Repair instructions	7
3.1 Rules of cleanliness	7
3.2 Foreign bodies in the engine	7
3.3 Contact corrosion	7
3.4 Cable routing and securing	8
3.5 Assembly of radiators and condensers	8
3.6 General notes on the injection system	8
3.7 General notes on the ignition system	9
3.8 General instructions for charge air system	9
3.9 Additional instructions when undertaking assembly work on the air-conditioning system	10
10 - Removing and installing engine	11
1 Removing and installing engine	11
1.1 Remove engine (Fabia II, Roomster, Rapid NH)	11
1.2 Remove engine (Octavia II, Yeti)	17
1.3 Securing the engine to the assembly stand	24
1.4 Installing engine	24
2 Assembly bracket	29
2.1 Summary of components -assembly mounting, Fabia II, Roomster, Rapid NH	29
2.2 Summary of components - assembly mounting, Octavia II, Yeti	30
2.3 Checking and adjusting the assembly mounting, Octavia II, Yeti	31
13 - Crankshaft group	34
1 Cylinder block (pulley end)	34
1.1 Assembly overview - V-ribbed belt drive	34
1.2 Removing and installing V-ribbed belt	37
1.3 Removing and installing vibration damper	38
1.4 Replacing crankshaft sealing ring on the belt pulley side	42
2 Cylinder block on gearbox side	44
2.1 Summary of components - cylinder block	44
2.2 Removing and installing flywheel	45
2.3 Removing and installing sealing flange on gearbox side	46
2.4 Removing and installing bracket for top auxiliary units	53
2.5 Removing and installing bracket for bottom auxiliary units	55
3 Crankshaft	56
3.1 Replace needle bearing for crankshaft	56
3.2 Measuring axial play of crankshaft	56
4 Pistons and conrods	58
4.1 Assembly overview - piston and conrod	58
4.2 Inspect piston, piston rings and cylinder bore	59



4.3	Separating new connecting rod	61
4.4	Removing and installing oil injection nozzles	61
15	Cylinder head, valve gear	63
1	Cylinder head	63
1.1	Summary of components - cylinder head	63
1.2	Removing and installing cylinder head cover and camshaft	66
1.3	Removing and installing cylinder head (Fabia II, Roomster, Rapid NH)	76
1.4	Removing and installing cylinder head (Octavia II, Yeti)	81
1.5	Checking compression	84
1.6	Checking the combustion chamber for tightness	85
2	Chain drive	87
2.1	Summary of components - timing chain	87
2.2	Checking valve timing	91
2.3	Setting the timing	93
2.4	Removing and installing timing chain and drive chain for oil pump	99
2.5	Removing and installing the top timing case	105
2.6	Removing and installing the bottom timing case	108
3	Valve gear	111
3.1	Assembly overview - valve gear	111
3.2	Checking the axial play of the camshaft	112
3.3	inspecting valve guides	113
3.4	Testing valves	113
3.5	reworking valve seats	116
3.6	Replacing valve stem seals	116
3.7	Valve dimensions	120
17	Lubrication	121
1	Lubrication system	121
1.1	Assembly overview - pan/oil pump	121
1.2	Removing and installing oil pan	125
1.3	Removing and installing oil pump	129
1.4	Summary of components - oil filter	130
1.5	Removing and installing non-return valve	132
1.6	Removing and installing engine oil cooler	133
1.7	Overview of components - Oil separator	134
1.8	Removing and installing oil separator	135
1.9	Testing oil pressure and oil pressure switch F1	138
19	Cooling	140
1	Cooling system	140
1.1	Connection diagram for coolant hoses (Fabia II, Roomster, Rapid NH)	140
1.2	Connection diagram for coolant hoses (Octavia II, Yeti)	141
1.3	Draining and filling coolant	142
2	Coolant pump and map-controlled engine cooling	147
2.1	Assembly overview - thermostat	147
2.2	Removing and installing belt pulley for coolant pump	147
2.3	Removing and installing coolant pump	148
2.4	Removing and installing coolant recirculation pump V50	149
3	Radiator and radiator fan	150
3.1	Overview of components - Parts of the cooling system fitted to the body, Fabia II, Roomster, Rapid NH	150
3.2	Summary of components - Parts of the cooling system fitted to body, Octavia II, Yeti	153
3.3	Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH	156
3.4	Removing and installing fan shroud, Octavia II, Yeti	157



3.5	Removing and installing radiator (Fabia II, Roomster, Rapid NH)	158
3.6	Removing and installing radiator (Octavia II, Yeti)	160
3.7	Check cooling system for leaks	162
20	Fuel supply system	165
1	Fuel tank	165
1.1	Summary of components - fuel tank, Fabia II	165
1.2	Summary of components - fuel tank, Roomster, Rapid NH	168
1.3	Overview of components - fuel tank version I, Octavia II, Yeti	171
1.4	Overview of components - fuel tank version II, Yeti	173
1.5	Summary of components - fuel filter, Octavia II, Yeti	175
1.6	Drain the fuel tank	176
1.7	Removing and installing the fuel tank (Fabia II, Roomster, Rapid NH)	184
1.8	Removing and installing the fuel tank (Octavia II, Yeti - version I)	187
1.9	Removing and installing the fuel tank (Yeti - version II)	190
2	Fuel pump	194
2.1	Summary of components - fuel pump G6 and fuel gauge sender	194
2.2	Removing and installing the fuel delivery unit (Fabia II, Roomster, Rapid NH)	196
2.3	Removing and installing the fuel delivery unit (Octavia II, Yeti - fuel tank version I)	198
2.4	Removing and installing the fuel delivery unit (Yeti - fuel delivery unit version II)	200
2.5	Removing and installing the fuel gauge sender G	203
2.6	Removing and installing fuel gauge sender 2 G169 (Yeti - fuel delivery unit version II)	204
2.7	Removing and installing the suction jet pump (Yeti - fuel delivery unit version II)	206
2.8	Inspecting fuel pump	206
3	Quick couplings	232
3.1	Separating push-on couplings	232
4	Accelerator control	236
4.1	Summary of components - accelerator pedal module, Fabia II, Roomster, Rapid NH	236
4.2	Summary of components - accelerator pedal module, Octavia II, Yeti	237
4.3	Removing and installing the accelerator pedal module (Octavia II, Yeti)	237
5	Activated charcoal filter system	240
5.1	Summary of components - activated charcoal filter system, Fabia II	240
5.2	Summary of components - activated charcoal filter system, Roomster, Rapid NH	241
5.3	Summary of components - active charcoal filter system, Octavia II, Yeti	242
5.4	Ventilation - Summary of components (Fabia II, Roomster, Rapid NH)	242
5.5	Checking the fuel tank venting (Octavia II, Yeti)	243
21	Turbocharging/supercharging	245
1	Exhaust gas turbocharger	245
1.1	Summary of components - exhaust gas turbocharger	245
1.2	Removing and installing exhaust gas turbocharger	248
1.3	Removing and installing charge pressure regulator V465	252
2	Charge-air system	254
2.1	Summary of components - charge-air system, Fabia II, Roomster, Rapid NH	254
2.2	Summary of components - charge-air system, Octavia II, Yeti	255
2.3	Removing and installing charge air cooler	257
24	Mixture preparation - injection	259
1	Injection system	259
1.1	Fitting position overview - engine compartment, Fabia II, Roomster, Rapid NH	259
1.2	Fitting location overview - Engine compartment, Octavia II, Yeti	261
2	Intake manifold	263
2.1	Assembly overview - intake manifold	263
2.2	Removing and installing the throttle valve control unit J338	267
2.3	Cleaning throttle valve control unit J338	269



2.4	Removing and installing intake manifold	270
3	Air filter	272
3.1	Summary of components - air filter, Fabia II, Roomster, Rapid NH	272
3.2	Summary of components - air filter, Octavia II, Yeti	273
3.3	Removing and installing air filter (Fabia II, Roomster, Rapid NH)	273
3.4	Removing and installing air filter (Octavia II, Yeti)	275
4	High pressure pump	276
4.1	Summary of components - high pressure pump	276
4.2	Removing and installing the high pressure pump	277
5	Injection valves	280
5.1	Removing and installing injectors	280
5.2	Replace Teflon gasket ring and supporting washer at injection valve	282
5.3	Clean injectors	285
6	Senders and sensors	287
6.1	Check fuel pressure sender G247	287
7	Engine control unit	290
7.1	Removing and installing engine control unit J623 (Fabia II, Roomster, Rapid NH)	290
7.2	Removing and installing engine control unit J623 (Octavia II, Yeti)	291
26	- Exhaust system	293
1	Removing and installing parts of the exhaust system	293
1.1	Overview of components - catalysts and attachments, Fabia II, Roomster, Rapid NH	293
1.2	Summary of components - catalyst and attachments, Octavia II, Yeti	296
1.3	Summary of components - Middle and rear part of the exhaust system	299
1.4	Summary of components - Middle and rear part of the exhaust system, Roomster, Rapid NH	300
1.5	Summary of components - Middle and rear part of the exhaust system Octavia II	301
1.6	Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured until 06/10.	302
1.7	Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured from 06/10.	303
1.8	Removing and installing catalytic converter with exhaust pipe (Fabia II, Roomster, Rapid NH)	303
1.9	Removing and installing catalytic converter (Octavia II, Yeti)	305
1.10	Replacing middle or rear part of the exhaust system	306
1.11	Align exhaust system free of stress	307
1.12	Inspecting the exhaust system for leaks	309
28	- Ignition system	310
1	Ignition system	310
1.1	Assembly overview - ignition system	310
1.2	Removing and installing the engine speed sender G28	311

00 – Technical data

1 Identification

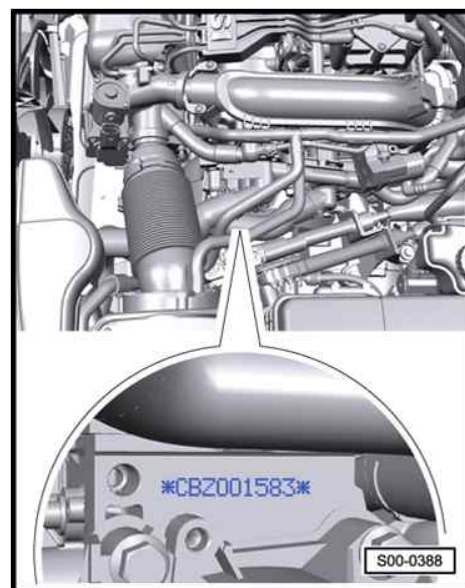
(SRL001163; Edition 12.2017)

⇒ [“1.1 Engine number”, page 1](#)

⇒ [“1.2 Engine characteristics”, page 1](#)

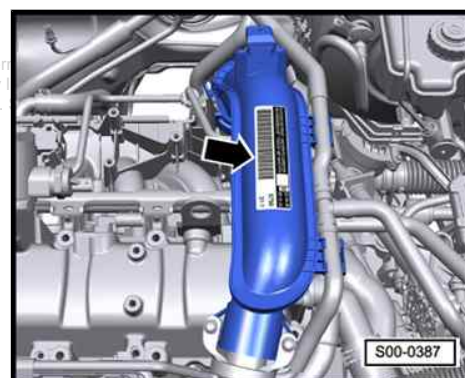
1.1 Engine number

The engine number (“engine identification character” and “serial number”) is located on the engine closely above the connection of the engine with the gearbox.



In addition, the “engine identification character” and the “serial number” are indicated on the vehicle data sticker -arrow- which is located on the air guide pipe. A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

- ◆ Starting with the letter “C”, new four digit engine codes have been introduced.
- ◆ The first 3 digits of the engine identification characters refer to the displacement and the mechanical construction of the engine. They are type-punched on the cylinder block including the serial number.
- ◆ The 4th digit refers to the output and torque of the engine and depends upon the engine control unit.



1.2 Engine characteristics

Engine codes		CBZA	CBZB
Manufactured	Fabia II	03.2010 ► 09.2014	03.2010 ► 09.2014
	Roomster	03.2010 ► 05.2015	03.2010 ► 05.2015
	Octavia II	----	02.2010 ► 11.2012
	Yeti	----	09.2009 ► 05.2015
	Rapid NH	07.2012 ► 05.2015	07.2012 ► 05.2015
Emission standards conforming to		EU5	EU5
Displacement	cm ³	1197	1197
Output	kW at rpm	63- 4800	77- 5000
Torque	Nm at rpm	160/1500-3500	175/1550-4100
Borehole	Ø mm	71.0	71.0



Engine codes	CBZA	CBZB
Stroke mm	75.6	75.6
Compression ratio	10:1	10:1
Number of cylinders/valves per cylinder	4 / 2	4 / 2
RON	unleaded 95 ¹⁾	unleaded 95 ¹⁾
Ignition system, fuel injection	Simos 10	Simos 10
Type of fuel preparation	Direct injection homogeneous	Direct injection homogeneous
Knock control	1 sensor	1 sensor
Lambda control	2 Lambda probes	2 Lambda probes
Three-way catalytic converter	yes	yes
Exhaust gas recirculation	no	no
Intake manifold change-over	no	no
Camshaft adjustment	no	no
Secondary air system	no	no
Exhaust gas turbocharger	yes	yes
Balancing shaft	no	no

¹⁾ At least 91 RON in exceptional cases, although engine output is reduced



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

2 Safety instructions

⇒ [“2.1 Self-diagnosis”, page 3](#)

⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#)

⇒ [“2.3 Reducing pressure in the high pressure system”, page 4](#)

⇒ [“2.4 Safety precautions during road tests in which testing and measuring equipment is used”, page 5](#)

⇒ [“2.5 Safety precautions when working on the injection system”, page 5](#)

⇒ [“2.6 Safety precautions when working on ignition system”, page 6](#)

⇒ [“2.7 Safety precautions when working on cooling system”, page 6](#)

2.1 Self-diagnosis

This Rep.-Gr. is deleted.

For this use the “Vehicle self-diagnosis”, “Measuring method” and “Fault finding” ⇒ Vehicle diagnostic tester.

2.2 Safety precautions when working on fuel supply system



WARNING

◆ *Fuel under very high pressure creates a risk of injury.*

- Wear protective gloves.
- Wear safety goggles.
- Decrease fuel pressure to residual pressure
⇒ [“2.3 Reducing pressure in the high pressure system”, page 4](#).

Place a clean cloth around the connection point and loosen the connection point carefully before opening the fuel system.



WARNING

◆ *Leaking fuel creates a fire hazard.*

Fuel pump is activated by switching on ignition and via driver door contact switch. Therefore, if the battery power hasn't been disconnected, for safety reasons the plug of the fuel delivery unit must be disconnected, or the fuel pump fuse must be removed before opening the fuel system.

- Disconnect fuse for fuel pump control unit - J538- ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.



WARNING

◆ *Risk of destruction of the electronic components when disconnecting the battery.*



Disconnect the battery only when the ⇒ Electrical System; Rep. gr. 27 battery is disconnected.

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- ◆ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- ◆ Ensure that there is adequate free access to all moving or hot components.
- ◆ The extraction hose of an exhaust extraction system which is switched on, must be positioned close to the assembly opening of the fuel tank in order to extract the released fuel vapours, even before the work is commenced. If no exhaust extraction system is available, a radial fan (motor not in air flow of fan) with a delivery volume of more than 15 m³/h must be used.



WARNING

- ◆ *Risk of damage to fuel pump.*

The fuel pump must not run »dry«.

2.3 Reducing pressure in the high pressure system



WARNING

- ◆ *The injection system consists of a high pressure part (max. pressure of 12 MPa = 120 bar) and a low pressure part (pressure of approx. 0.6 MPa = 6 bar).*
- ◆ *Before opening the high pressure system, e.g. removing the high pressure pump, the fuel distributor, the injection valves, the fuel pipes or the fuel pressure sender - G247-, the fuel pressure in the high pressure system with a remaining pressure of approx. 0.6 MPa (6 bar) must be reduced.*

Decrease fuel pressure to residual pressure

- Connect the ⇒ Vehicle diagnostic tester and carry out the targeted function "Remove high fuel pressure".
- Switch off ignition.



Note

The ignition must not be switched on again, otherwise the pressure increases again.

After the pressure has been reduced to residual pressure of 0.6 MPa (6 bar), the connection point must be opened »immediately«. To do this place a cloth around the connection point.



WARNING

The fuel lines are pressurized!

- Wear protective gloves.
- Wear safety goggles.



Note

If the high-pressure system is not opened immediately, the pressure will increase again.

Query the event memory of the engine control unit at the end of the work and delete all the event memory entries.

2.4 Safety precautions during road tests in which testing and measuring equipment is used

If test and measuring devices are required during test drives observe the following:

Risk of accident from distraction

Using testers and measuring instruments during driving causes distraction.

There is a risk of injury if testers and measuring instruments are not secured adequately.

Increased risk of injury from unsecured testers and measuring instruments must be prevented.

Measuring instruments can turn into dangerous projectiles on air-bag activation.

Testers and measuring instruments must always be secured on the rear seat using a seat belt and operated by a 2nd person from there.

2.5 Safety precautions when working on the injection system



WARNING

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by ŠKODA AUTO AG. Any liability with regard to damages is excluded. A.S. ©

◆ ***The safety measures for the pressure reduction in the high pressure system must be observed***
⇒ "2.3 Reducing pressure in the high pressure system", page 4 .

Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

- Do not touch or disconnect ignition leads with the engine running or at start speed.

Ignition must be switched off before disconnecting and re-connecting the cables of the fuel injection and the ignition system as well as of the test equipment.

If the engine must be operated at start speed without it starting, as for example, when checking the compression pressure, open lid of fuse carrier in the engine compartment and unplug fuse for



Motronic current supply relay - J271- ⇒ Current flow diagrams,
Electrical fault finding and Fitting locations.

2.6 Safety precautions when working on ignition system

Risk of injury due to high voltage.

- Do not touch the ignition system with the engine running or at start speed.

Risk of damage to injection and ignition system

- Ignition must be switched off before disconnecting and re-connecting the cables of the fuel injection and the ignition system as well as of the test equipment.

Switch off ignition before an engine wash.

2.7 Safety precautions when working on cooling system

Risk of injury due to hot steams.

- Wear protective gloves.
- Wear safety goggles.

Relieve any possible pressure prior to the repair.

When the engine is warm, the cooling system is under overpressure.

Hot steam may escape when the expansion reservoir is opened.

- Cover the cap of the coolant expansion tank with a cloth and open carefully.

ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

3 Repair instructions

⇒ [“3.1 Rules of cleanliness”, page 7](#)

⇒ [“3.2 Foreign bodies in the engine”, page 7](#)

⇒ [“3.3 Contact corrosion”, page 7](#)

⇒ [“3.4 Cable routing and securing”, page 8](#)

⇒ [“3.5 Assembly of radiators and condensers”, page 8](#)

⇒ [“3.6 General notes on the injection system”, page 8](#)

⇒ [“3.7 General notes on the ignition system”, page 9](#)

⇒ [“3.8 General instructions for charge air system”, page 9](#)

⇒ [“3.9 Additional instructions when undertaking assembly work on the air-conditioning system”, page 10](#)

3.1 Rules of cleanliness

Even slight contamination can lead to defects. Carefully observe the following rules for cleanliness when working on the fuel supply/injection system and turbocharging:

- ◆ Before undoing the connection points, thoroughly clean and dry the connections and the area surrounding them with engine or brake cleaner.
- ◆ Open the open lines and connections immediately with a clean plug, e.g. from the screw plug set for engine - VAS 6122- .
- ◆ Place removed parts on a clean surface and cover. Use lint-free cloths.
- ◆ Carefully cover or close open components if the repair is not completed immediately.
- ◆ Only install clean parts: remove spare parts from their wrapping immediately before fitting. Do not use any parts which have been stored unwrapped (e.g. in tool boxes etc.).
- ◆ When the system is opened: do not use compressed air. Do not move the vehicle.
- ◆ **Ensure that no fuel runs onto the fuel hoses. If happens, clean the hoses immediately.**
- ◆ Protect electrical plug connections from dirt and moisture and only connect them when dry.

3.2 Foreign bodies in the engine

To prevent the penetration of foreign bodies, open channels of the inlet connection and exhaust tract must be sealed with suitable plugs during assembly works on the engine, for example from the screw plug set for engine - VAS 6122- .

If the cylinder has sustained mechanical damage, carry out a thorough inspection to see whether there are any foreign bodies in the inlet connection and exhaust train.

3.3 Contact corrosion

The use of unsuitable connection elements (screws, nuts, washers, etc.) can cause contact corrosion.

This is why only connection elements with a special surface coatings are fitted.

Therefore, the rubber or plastic parts and the adhesives are made from electrically non-conductive materials.



If there is a question mark about the suitability of parts, generally use new parts ⇒ Electronic Catalogue of Original Parts "ETKA".

- ◆ Only use genuine parts. These parts have been inspected and are resistant to aluminium.
- ◆ Any damage resulting from contact corrosion is not covered by the terms of the warranty.

3.4 Cable routing and securing

Install lines of all kinds so that the original routing can be restored.

- ◆ Fuel feed lines
- ◆ Hydraulic lines
- ◆ Brake fluid lines
- ◆ Coolant lines
- ◆ Vacuum lines
- ◆ Activated charcoal filter system lines
- ◆ Electrical lines

To rule out mix ups and ensure the original fitting position, mark the lines before disassembly.

Make photos or sketches where necessary.

To avoid damage to lines, ensure sufficient clearance from all moving or hot components.

Insulation or heat shield mats must be installed again in their original position.

Secure all hose connections with hose clamps, assignment ⇒ Electronic Catalogue of Original Parts .

When installing fit the coolant hoses free of stress, without them touching any other components (pay attention to the marking on the coolant connection and hose).

The arrows on the coolant pipes and the coolant hose ends must face each other.

3.5 Assembly of radiators and condensers

The radiator, condenser and charge air cooler may have minor indentations on the fins, even if assembled correctly. This is not a case of damage. Radiators, condensers and charge air coolers must not be replaced because of these indentations.

3.6 General notes on the injection system

Repairing ignition ⇒ **"1 Ignition system", page 310**.
Use of this document for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for errors or omissions. Copyright by ŠKODA AUTO A. S.

- ◆ The engine control unit is equipped with a self-diagnosis system. Before repairs and also for fault finding, first of all interrogate the event memory. Also check the vacuum hoses and connections (unmetered air).
- ◆ Fuel hoses in the engine compartment may only be secured with spring-type clips ⇒ ETKA - Electronic Catalogue of Original Parts . The use of clamp-type or screw-type clips is not allowed.
- ◆ A minimum voltage of 11.5 V is required for perfect functioning of the electrical components.
- ◆ Do not use sealants containing silicone. Traces of silicone elements drawn in by the engine are not burnt in the engine and damage the lambda probe.

- ◆ Certain inspections may cause the control unit to detect and store a fault. It is therefore necessary to query the event memory after having completed all inspections and repairs, and if necessary, delete the entries ⇒ Vehicle diagnostic tester.
- ◆ If after fault finding, repair or inspection of components the engine starts briefly and then stops, it is possible that the immobiliser blocks the engine control unit. Then if necessary the control unit must be adapted ⇒ Vehicle diagnostic tester.

Safety measures

⇒ [“2.5 Safety precautions when working on the injection system”, page 5](#).

3.7 General notes on the ignition system

- ◆ Switch off the ignition before disconnecting and connecting the battery, as this may damage the engine control unit.
- ◆ The engine control unit and further components are equipped with self-diagnosis; inspect ⇒ Vehicle diagnostic tester.
- ◆ A minimum voltage of 11.5 V is required for perfect functioning of the electrical components.
- ◆ Certain inspections may cause the control unit to detect and store a fault. It is therefore necessary to query the event memory after having completed all inspections and repairs, and if necessary, delete the entries ⇒ Vehicle diagnostic tester.
- ◆ If after fault finding, repair or inspection of components the engine starts briefly and then stops, it is possible that the immobiliser blocks the engine control unit. Then if necessary the control unit must be adapted ⇒ Vehicle diagnostic tester.

Safety measures

⇒ [“2.5 Safety precautions when working on the injection system”, page 5](#).

Setting data, spark plugs:

- ◆ ⇒ Maintenance ; Booklet Fabia II .
- ◆ ⇒ Maintenance ; Booklet Roomster .
- ◆ ⇒ Maintenance ; Booklet Octavia II .
- ◆ ⇒ Maintenance ; Booklet Yeti .
- ◆ ⇒ Maintenance ; Booklet Rapid NH .

3.8 General instructions for charge air system

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- ◆ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- ◆ Ensure that there is adequate free access to all moving or hot components.

In case a mechanical damage to the exhaust gas turbocharger is found, for example, damage to the compressor wheel, it is not sufficient to only replace the turbocharger. In order to avoid consequential damage, perform the following tasks:

- ◆ Clean all oil lines.
- ◆ Change engine oil and oil filter.



- ◆ Inspect the air filter housing, the air filter element and the intake hoses for contaminations.
- ◆ Inspect the whole charge-air routing and the charge air cooler for foreign bodies.
- ◆ The charge-air system must be tight.
- ◆ Replace self-locking nuts.
- ◆ Hose connections and hoses for the charge air system must be free of oil and grease before being installed.
- ◆ Only use approved clamps for securing the hose connections
⇒ Electronic Catalogue of Original Parts .
- ◆ Spring-type clip pliers are recommended for installation of spring-type clips.
- ◆ Before connecting the oil feed line, fill the exhaust turbocharger via the connection fitting with engine oil.
- ◆ To ensure the oil supply to the exhaust gas turbocharger, leave the engine running for about 1 minute after installing the exhaust gas turbocharger.

3.9 Additional instructions when undertaking assembly work on the air-conditioning system



WARNING

Risk of frost due to refrigerant.

Do not open the refrigerant circuit of the air conditioning system.

To prevent damage to condenser or to refrigerant lines/hoses, ensure that the lines and hoses are not stretched, kinked or bent.

Steps which should be taken in order to remove and install the engine without opening the refrigerant circuit:

- Remove the holding clamp(s) of the refrigerant lines.
- Remove AC compressor from the bracket
⇒ ["1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system", page 36](#) .
- Mount the AC compressor in such a way that the refrigerant lines/hoses are not under tension.

10 – Removing and installing engine

1 Removing and installing engine

⇒ [“1.1 Remove engine \(Fabia II, Roomster, Rapid NH\)”, page 11](#)

⇒ [“1.2 Remove engine \(Octavia II, Yeti\)”, page 17](#)

⇒ [“1.3 Securing the engine to the assembly stand”, page 24](#)

⇒ [“1.4 Installing engine”, page 24](#)

1.1 Remove engine (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-
- ◆ Double ladder , e.g. -VAS 5085-
- ◆ Engine mount - T10416-
- ◆ Pliers for spring-type clips
- ◆ Catch pan , e.g. -VAS 6208-



Note

- ◆ *The engine is removed downwards together with the gearbox.*
- ◆ *All cable straps that have been loosened or cut open when the engine was removed must be attached again in the same location when the engine is installed again.*
- ◆ *Leave the ignition key in the ignition lock so that the steering lock does not click into place.*



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- ◆ *Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.*
- ◆ *To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.*

Observe all safety measures and notes for assembly work on the fuel system, on the injection and ignition system and the charge air system as well as rules for cleanliness

⇒ [“2 Safety instructions”, page 3](#) .



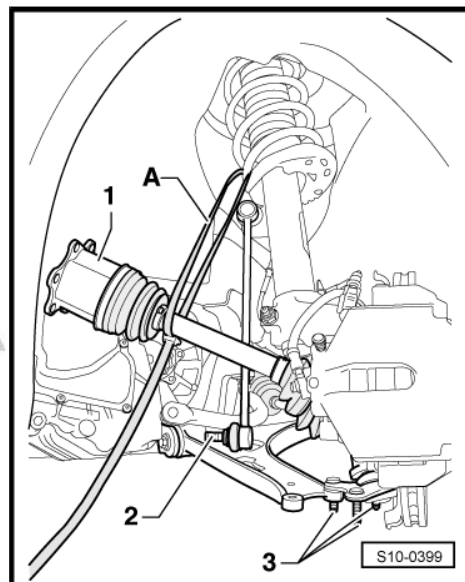
WARNING

Reduce pressure in the high pressure system
⇒ [“2.3 Reducing pressure in the high pressure system”, page 4](#) .

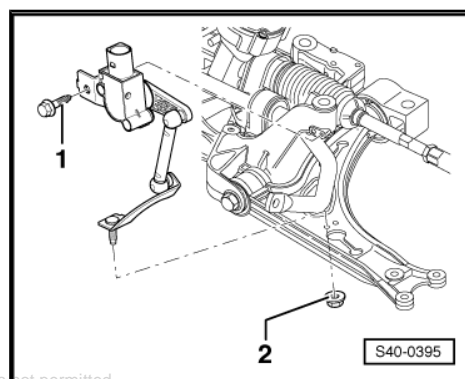


- Before disconnecting the battery, if necessary remove the adapter for the anti-theft wheel bolts from the luggage compartment.
- Remove battery ⇒ Electrical System; Rep. gr. 27 .
- Remove air filter
⇒ [“3.3 Removing and installing air filter \(Fabia II, Roomster, Rapid NH\)”](#), page 273 .
- Remove battery ⇒ Electrical System; Rep. gr. 27 .
- Remove the right and left wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Drain coolant ⇒ [“1.3 Draining and filling coolant”](#), page 142 .
- Remove drive shaft to the right ⇒ Chassis; Rep. gr. 40 .
- Unscrew the left drive shaft from the flange shaft of the gear-box.
- Unscrew the nut from the left coupling rod -2- and press off the coupling rod from the anti-roll bar.
- Unscrew the nuts from the left steering joint -3- and press the steering joint out of the suspension arm.

ŠKODA

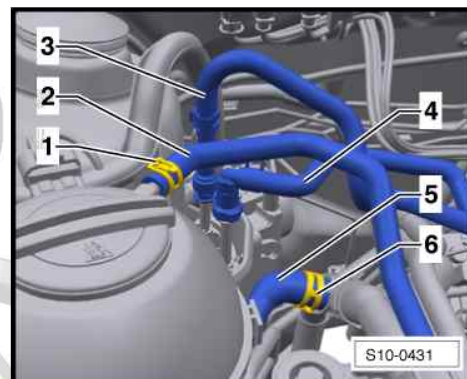


- Unscrew the nut -2- from the front left track control arm on installed front left vehicle level sensor - G78- .
- Turn the steering to full left lock.
- Swivel the steering joint outwards and secure the drive shaft -1- with a band -A- in the wheelhouse.

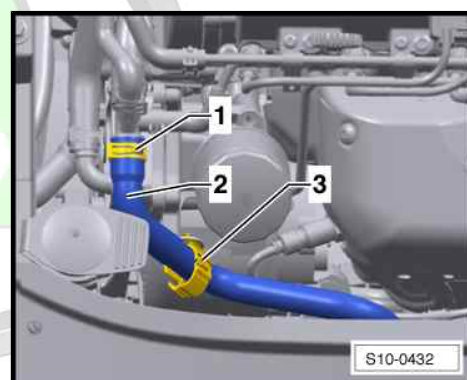


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

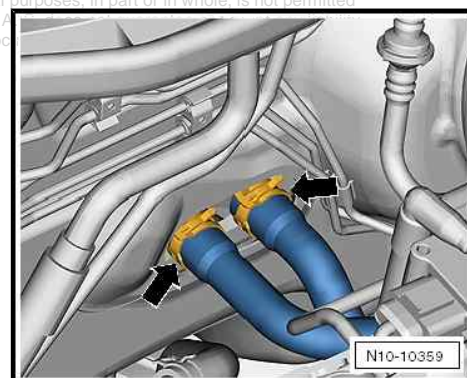
- Detach coolant hoses -2- and -5-.
- Pull out the fuel line -3- and -4- and catch the fuel which flows out with a cleaning cloth
⇒ [“3.1 Separating push-on couplings”, page 232](#).



- Loosen retaining clip for coolant hose -3-.
- Slacken the clamp -1- and detach the coolant hose -2- from the engine.



- Detach the coolant hoses at the heat exchanger -arrows-.



- Detach vacuum hose -1- from intake manifold.
- Slacken clamps -2- and pull off the coolant hoses -3-, -4- and -5-.

For vehicles with automatic gearbox

- Remove the selector lever control cable from the gearbox ⇒ Gearbox; Rep. gr. 34 .

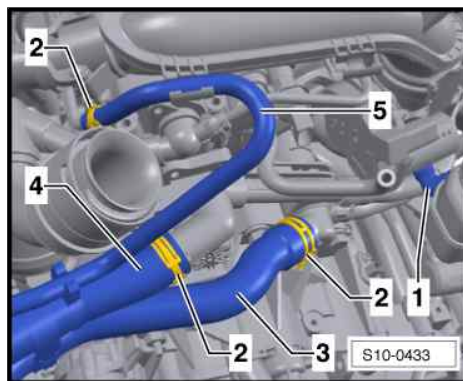
For vehicles with manual gearbox

- Remove shift mechanism from gearbox ⇒ Gearbox; Rep. gr. 34 .
- Remove hydraulic clutch control from gearbox ⇒ Gearbox; Rep. gr. 30 .



WARNING

After removing the slave cylinder or after separating the hydraulic line, do not depress the clutch pedal.



Continued for all vehicles

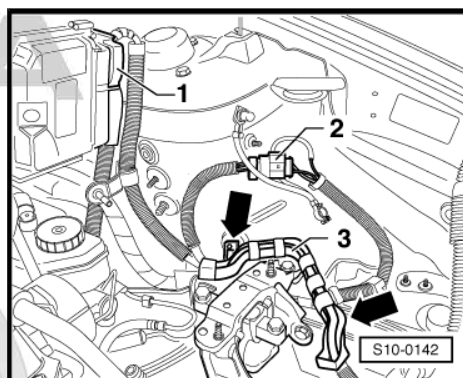
- Remove/unclamp all electrical lines from the gearbox, generator and starter motor and uncover them.
- Remove/unclamp all other necessary electrical cables from the engine and expose them.
- Disconnect the vacuum and bleeder hoses from the engine.

- Disconnect the plug of the engine wiring harness -1- from the engine control unit
⇒ ["7.1 Removing and installing engine control unit J623 \(Fabia II, Roomster, Rapid NH\)", page 290](#) .

- Disconnect plug connection -2-.

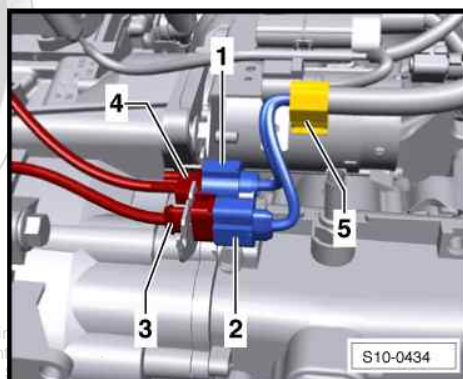
- Unclip cable clip -3- -arrows-.

- Remove engine wiring harness and attach to engine control unit.



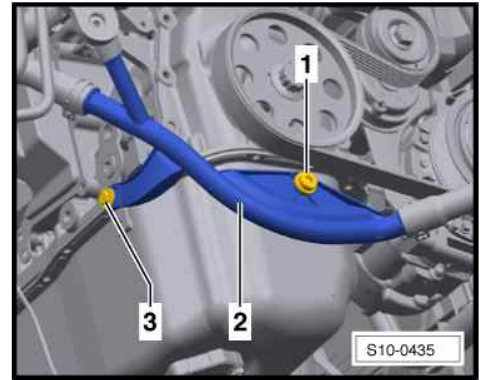
- Disconnect plugs -1- and -2- and pull off cable strap -5-.

- Remove catalytic converter with pre-exhaust pipe
⇒ ["1.8 Removing and installing catalytic converter with exhaust pipe \(Fabia II, Roomster, Rapid NH\)", page 303](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in full, is prohibited unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee the accuracy of the information with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

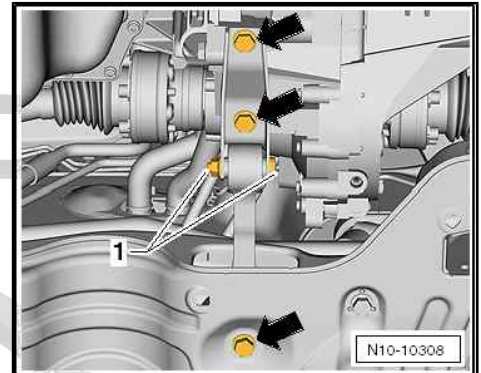
- Unscrew screws -1- and -3- and remove the bottom coolant pipe -2-.



- Unbolt the pendulum support -arrows-.

For vehicles with air conditioning

- Remove V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#).



- Disconnect connector -1- for magnetic coupling at AC compressor.



WARNING

Risk of injury through refrigerant.

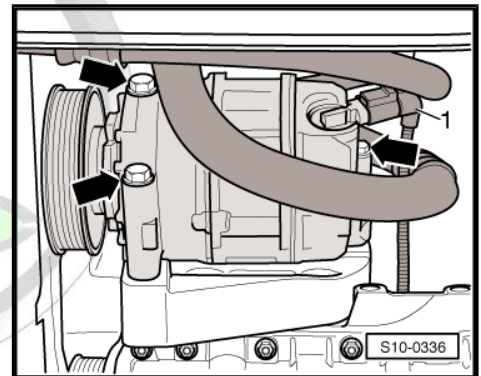
- ◆ **Do not open the refrigerant circuit of the air conditioning system.**



Caution

Risk of damaging refrigerant lines and hoses.

- ◆ **Do not over-tension, buckle or bend refrigerant lines and hoses.**



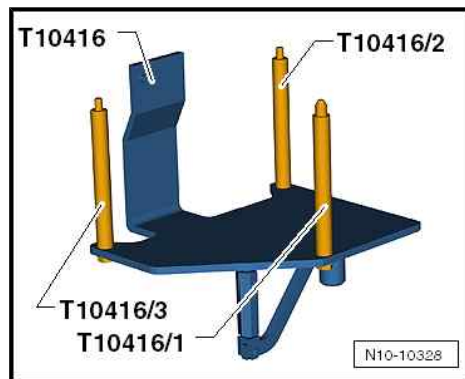
- Release screws -arrows- for AC compressor.
- Secure AC compressor to lock carrier.

Continued for all vehicles

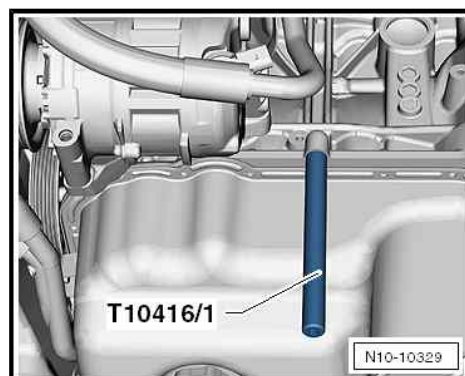
- Removing fan shroud
⇒ ["3.3 Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH", page 156](#).



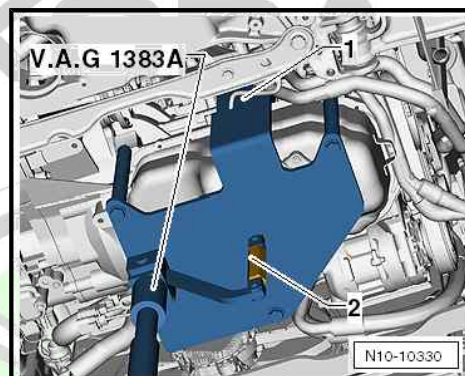
In order to lower the engine with the gearbox, the engine holder
- T10416- with the adapters -/1-, -/2- and -/3- is required.



- Turn the adapter T10416/1 up to the stop in the cylinder block.

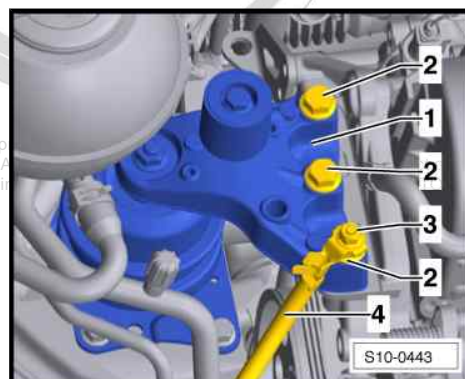


- Fit the engine mount - T10416- with the adapters -/2- and -/3- to the cylinder block.
- Attach the engine mount - T10416- with the screw -1- by hand at the cylinder block.
- Tight all screws on engine holder - T10416- to 20 Nm.
- Place the engine/gearbox jack - V.A.G 1383 A- on the engine mount - T10416 - and slightly raise the engine with the gearbox.



Note

- ♦ Check whether all hose and line connections between engine, gearbox and body are released, if necessary release them.
- ♦ Use the double ladder - VAS 5085- for removing the fixing bolts.
- Unscrew nut -3- and disconnect earth lead -4- from engine mount.
- Release screws -2- from engine mount -1-.



Protected by copyright. Copying for private use is permitted without prior written permission from ŠKODA AUTO AG.

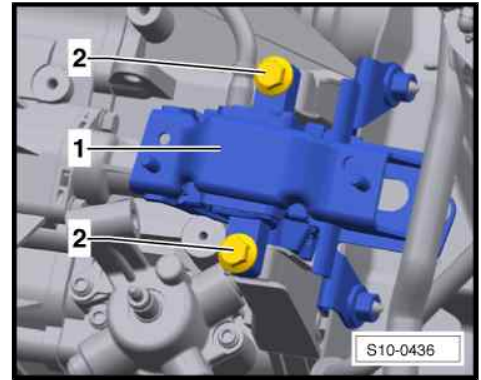
limited liability

- Release screws -2- from gearbox mount -1-.



Note

- ◆ *The engine/gearbox assembly should be lowered with the help of a second mechanic.*
- ◆ *Carefully lower engine with gearbox in order to avoid damage.*
- Pull engine/gearbox unit as far forward as possible and lower carefully and slowly downwards.
- Remove the gearbox from the engine ⇒ gearbox; Rep. gr. 34 .



1.2 Remove engine (Octavia II, Yeti)

Special tools and workshop equipment required

- ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-
- ◆ Double ladder , e.g. -VAS 5085-
- ◆ Engine mount - T10416-
- ◆ Pliers for spring-type clips
- ◆ Catch pan , e.g. -VAS 6208-



Note

- ◆ *The engine is removed downwards together with the gearbox.*
- ◆ *All cable straps that have been loosened or cut open when the engine was removed must be attached again in the same location when the engine is installed again.*
- ◆ *Leave the ignition key in the ignition lock so that the steering lock does not click into place.*



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- ◆ *Route all the various lines (e.g. for fuel, hydraulics, activated charcoal filter system, coolant and refrigerant, brake fluid and vacuum) and electrical wiring in their original positions.*
- ◆ *To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.*

Observe all safety measures and notes for assembly work on the fuel system, on the injection and ignition system and the charge air system as well as rules for cleanliness
⇒ ["2 Safety instructions", page 3](#) .



WARNING

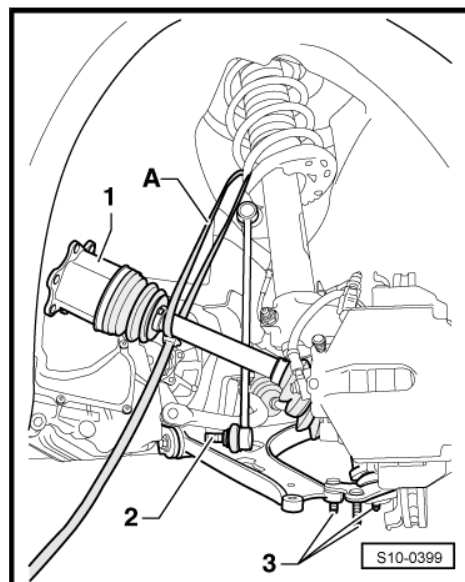
*Reduce pressure in the high pressure system
⇒ ["2.3 Reducing pressure in the high pressure system", page 4](#) .*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

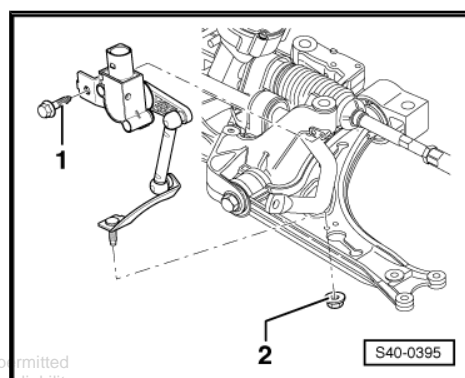


- Remove air filter
⇒ ["3.4 Removing and installing air filter \(Octavia II, Yeti\)", page 275](#) .
- Before disconnecting the battery, if necessary remove the adapter for the anti-theft wheel bolts from the luggage compartment.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .
- Remove the right and left wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Drain the coolant from the cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .
- Remove right drive shaft ⇒ Chassis; Rep. gr. 40 .
- Unscrew the left drive shaft from the flange shaft of the gear-box.
- Unscrew the nut from the left coupling rod -2- and press off the coupling rod from the anti-roll bar.
- Unscrew the nuts from the left steering joint -3- and press the steering joint out of the suspension arm.

ŠKODA

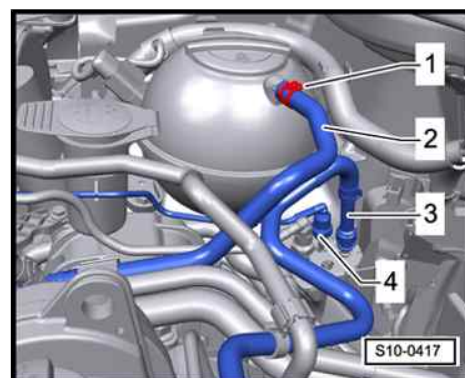


- Unscrew the nut -2- from the left track control arm if the front left vehicle level sensor - G78- is present.
- Turn the steering to full left lock.
- Swivel the steering joint outwards and secure the drive shaft -1- with strap -A- in the wheelhouse.

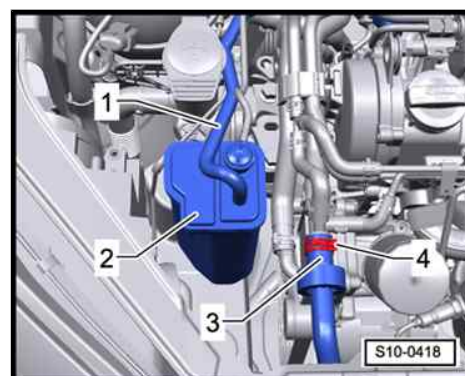


Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

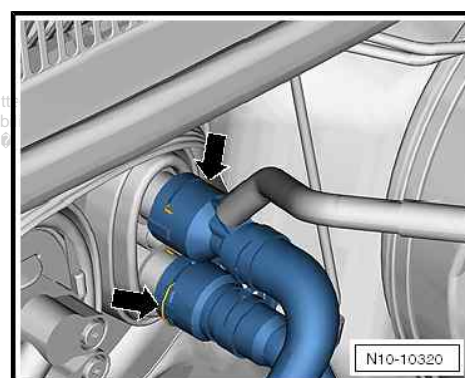
- Pull off top coolant hose -2- and bottom coolant hose from expansion reservoir.
- Disconnect the fuel feed line -3- (press in the securing ring to the top) and catch the fuel which flows out with a cleaning cloth.
- Detach the connecting hose -4- to the activated charcoal filter system.



- Remove the hose -1- from the activated charcoal filter and from the activated charcoal filter solenoid valve 1 - N80- .
- Remove activated charcoal filter -2-.
- Slacken the clamp -4- and detach the coolant hose -3- from the engine.



- Release the coolant hoses at the heat exchanger -arrows- and pull them off.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

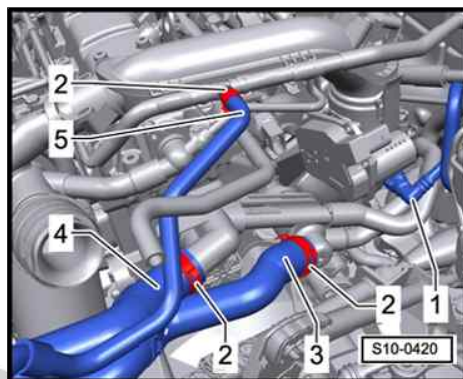
- Detach vacuum hose -1- from intake manifold.
- Slacken clamps -2- and pull off the coolant hoses -3-, -4- and -5-.

For vehicles with automatic gearbox

- Remove the selector lever control cable from the gearbox ⇒ Gearbox; Rep. gr. 34 .

For vehicles with manual gearbox

- Remove shift mechanism from gearbox ⇒ Gearbox; Rep. gr. 34 .
- Remove hydraulic clutch control from gearbox ⇒ Gearbox; Rep. gr. 30 .

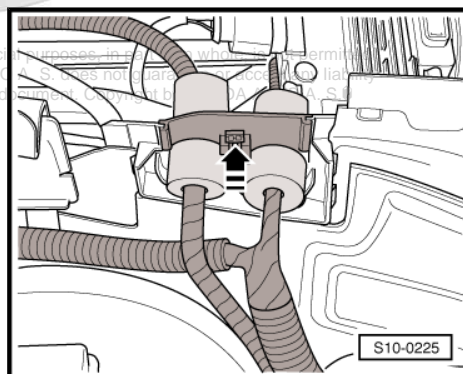


WARNING

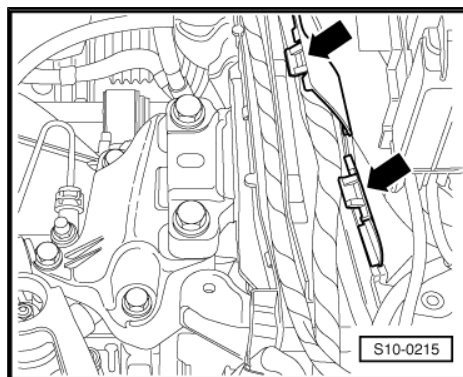
After removing the slave cylinder or after separating the hydraulic line, do not depress the clutch pedal.

- Remove/unclamp all electrical lines from the gearbox, generator and starter motor and uncover them.
- Remove/unclamp all other necessary electrical cables from the engine and expose them.
- Disconnect the vacuum and bleeder hoses from the engine.
- Disconnect the plug from the thermal switch and the radiator fan.
- Disconnect the plug of the engine wiring harness from the engine control unit (front plug)
⇒ ["7.2 Removing and installing engine control unit J623 \(Octavia II, Yeti\)"](#), page 291 .
- Release guide for engine wiring harness and pull out upwards -arrow-.

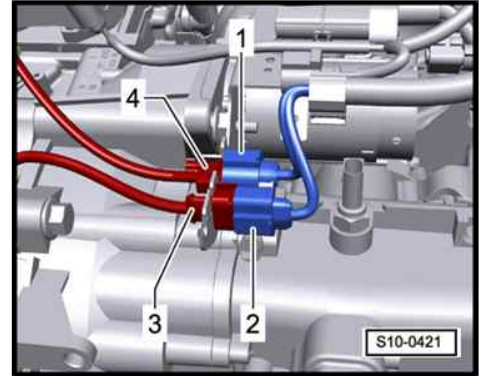
Protected by copyright. Copying for private or commercial purposes in any form without the written permission of ŠKODA AUTO A. S. is not permitted. ŠKODA AUTO A. S. does not guarantee the accuracy of the information with respect to the correctness of information in this document.



- Open all fuses for the engine wiring harness at frame side rail -arrows-.
- Open other attachments of the engine wiring harness, remove engine wiring harness and attach to engine.
- Attach the cables with a cable strap at the engine.



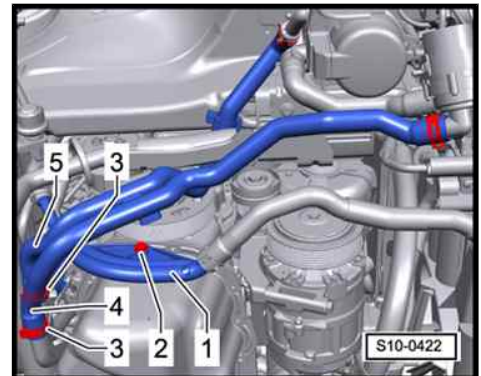
- Disconnect connectors -1- and -2-.
- Remove pre-exhaust pipe -Pos. 9-
⇒ [“1.2 Summary of components - catalyst and attachments, Octavia II, Yeti”, page 296](#) .



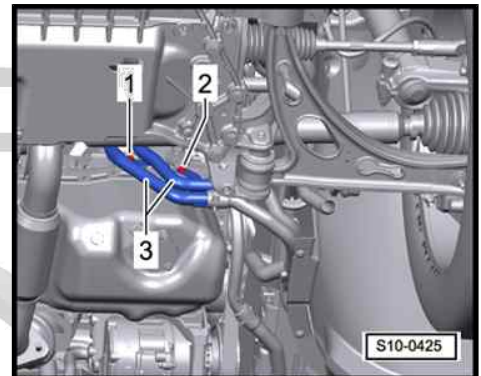
- Unscrew the screw -2- and remove the bottom coolant pipe -1-.

Vehicles with auxiliary heating

- Slacken clamps -3- and pull off the coolant hoses -4- and -5-.

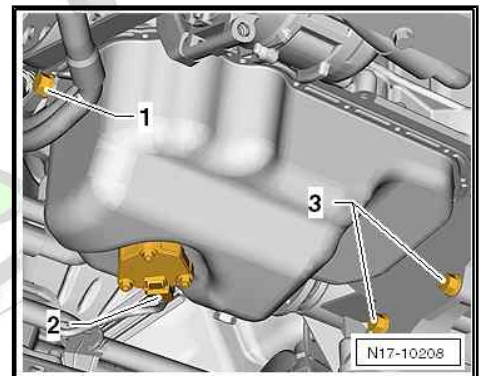


- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.



Continued for all vehicles

- Disconnect plug -2- from oil level and oil temperature sender - G266- .
- Remove the hold-down device for the cable guide of the oil level and oil temperature sender - G266- from the assembly carrier at the front and place down on the assembly carrier.



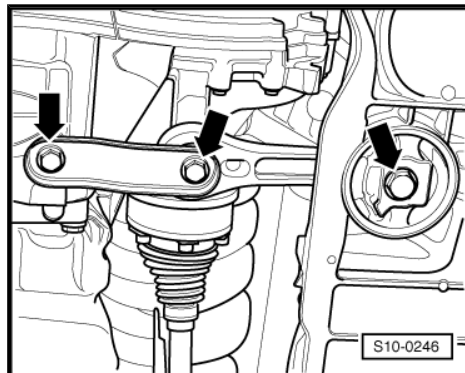
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Unbolt the pendulum support -arrows-.

For vehicles with air conditioning

- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .



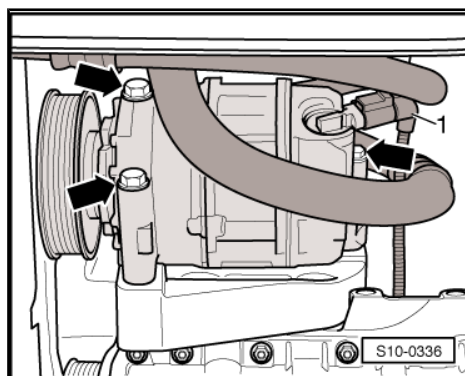
- Disconnect connector -1- for magnetic coupling at AC compressor.



WARNING

Risk of injury through refrigerant.

- ◆ *Do not open the refrigerant circuit of the air conditioning system.*



Caution

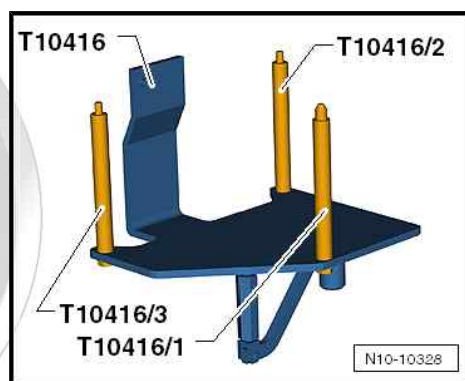
Risk of damaging refrigerant lines and hoses.

- ◆ *Do not over-tension or buckle refrigerant lines and hoses.*

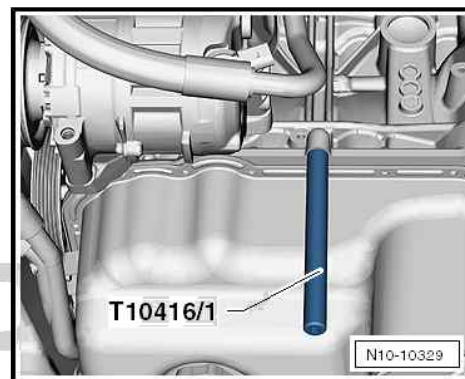
- Release screws -arrows- for AC compressor.
- Secure AC compressor to lock carrier.

Continued for all vehicles

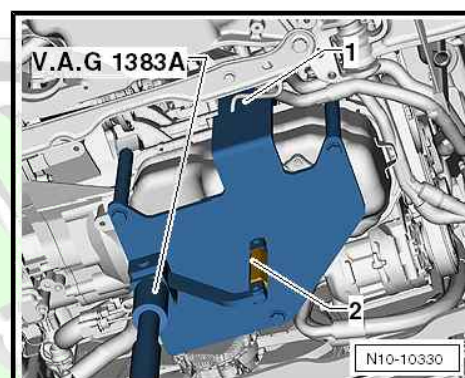
In order to lower the engine with the gearbox, the engine holder - T10416- with the adapters -/1-, -/2- and -/3- is required.



- Turn the adapter T10416/1 up to the stop in the cylinder block.



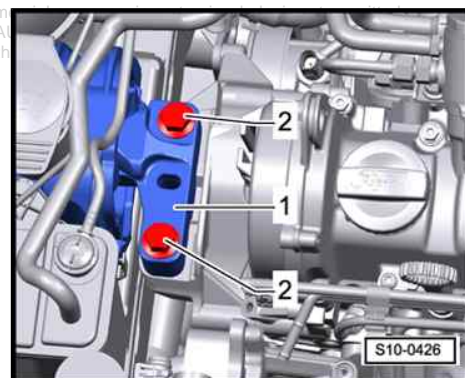
- Fit the engine mount - T10416- with the adapters -/2- and -/3- to the cylinder block.
- Attach the engine mount - T10416- with the screw -1- by hand at the cylinder block.
- Tight all screws on engine holder - T10416- to 20 Nm.
- Place the engine/gearbox jack - V.A.G 1383 A- on the engine mount - T10416 - and slightly raise the engine with the gearbox.



Note

- ◆ Check whether all hose and line connections between engine, gearbox and body are released, if necessary release them.
- ◆ Use the double ladder - VAS 5085- for removing the fixing bolts.

- Release the screws -2- of the assembly bracket at the engine.

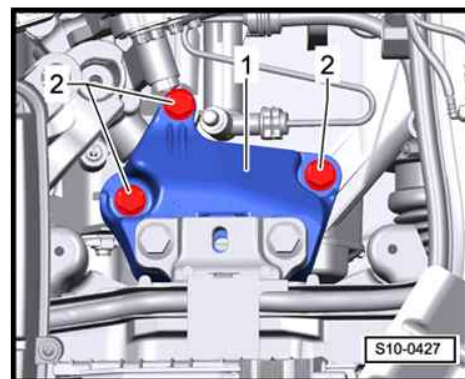


- Release the screws -2- of the assembly bracket at the gearbox.



Note

- ◆ The engine/gearbox assembly should be lowered with the help of a second mechanic.
- ◆ When lowering carefully guide the engine/gearbox assembly, in order to avoid damage.
- Pull engine/gearbox unit as far forward as possible and lower carefully and slowly downwards.
- Remove the gearbox from the engine ⇒ gearbox; Rep. gr. 34 .





1.3 Securing the engine to the assembly stand

Special tools and workshop equipment required

- ◆ Workshop crane , e.g. -VAS 6100-
- ◆ Engine and gearbox mount - VAS 6095-
- ◆ Lifting device for workshop crane - MP 9-201 (2024 A)-



Note

The engine and gearbox support - VAS 6095- or assembly stands - MP 9-101- with engine mount - MP 1-202- for the attachment.

Attachment to engine and gearbox mount - VAS 6095-

- Separate engine from gearbox.
- Attach the lifting device -MP9-201 (2024 A)- at the workshop crane (e.g. -VAS 6100-) and at the engine, as shown in the figure. (The figure shows the 1.4 ltr./90 kW TSI Engine; the fixing system is identical).

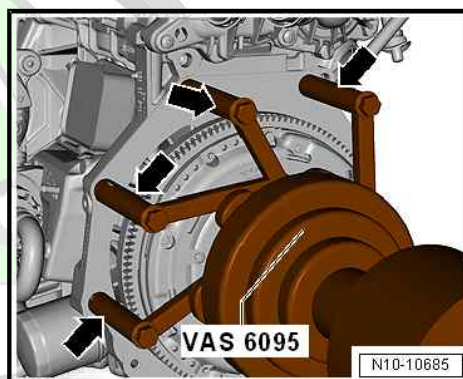
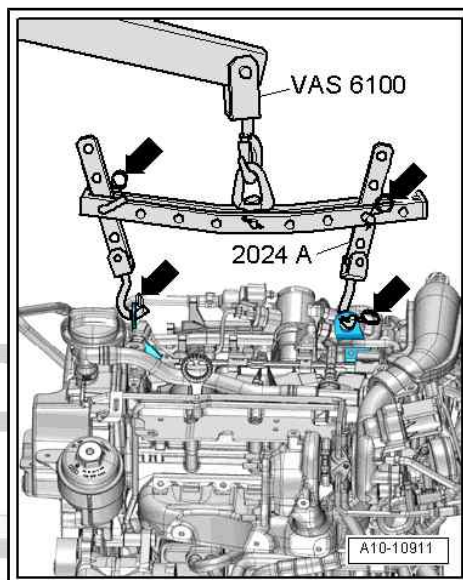


WARNING

Use securing pins on the hooks and rig pins to prevent release.

Use securing pins on the hooks and rig pins -arrows-, in order to avoid injuries and damages to the engine.

- Lift off engine with installed engine mount -T10416- with workshop crane e.g. -VAS 6100- from engine/gearbox jack -V.A.G 1383 A- .
- Remove engine mount -T10416- .
- Secure engine using bolts -arrows- to the engine and gearbox mount - VAS 6095- .



1.4 Installing engine

Special tools and workshop equipment required

- ◆ Double ladder , e.g. -VAS 5085-
- ◆ Pliers for spring-type clips
- ◆ Grease - G 000 100-
- ◆ Cable strap

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

Condition

- Engine and gearbox fitted to the engine and gearbox jack - T10416- using engine mount - V.A.G 1383 A- .

Work procedure

Installation is carried out in the reverse order. When installing, observe the following:



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- ◆ *Route all the various lines (e.g. for fuel, hydraulics, activated charcoal filter system, coolant and refrigerant, brake fluid and vacuum) and electrical wiring in their original positions.*
- ◆ *To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.*



Note

- ◆ *Fit all cable straps on again in the same place when installing.*
- ◆ *Secure all hose connections with hose clamps ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Replace the self-locking nuts and screws when undertaking assembly work.*
- ◆ *Replace screws which have been tightened to a torquing angle as well as sealing rings and seals.*

Observe all safety measures and notes for assembly work on the fuel system, on the injection and ignition system and the charge air system as well as rules for cleanliness

⇒ ["2 Safety instructions", page 3](#) .

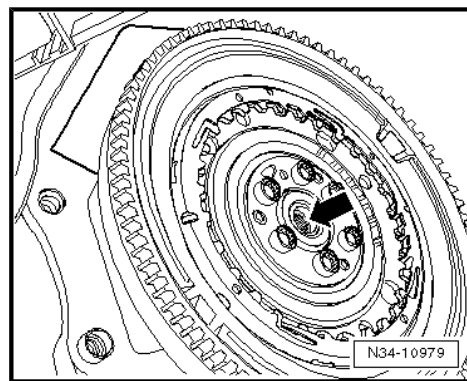
For vehicles with manual gearbox

- Clean the serration of the drive shaft and if the clutch disc has been used clean the hub serration, remove corrosion and only apply a very thin layer of grease - G 000 100- to the serration of the drive shaft. Then move clutch plate to and fro on input shaft until hub moves freely on shaft. Always remove excess grease.
- After installing the coupling, check the centering of the clutch disc ⇒ Gearbox; Rep. gr. 30 .
- Check the clutch release bearing for wear. Replace release bearing if worn ⇒ Gearbox; Rep. gr. 30 .



For vehicles with automatic gearbox

- Replace the needle bearing -arrow- in the crankshaft
⇒ [“3.1 Replace needle bearing for crankshaft”, page 56](#) .
- Attach the selector lever control cable at the gearbox ⇒ Gear-
box; Rep. gr. 34 .



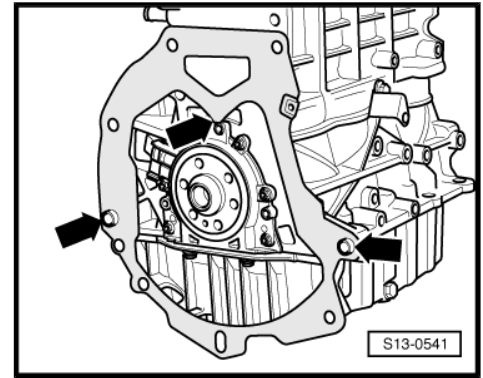
ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

Continued for all vehicles

- Check whether dowel sleeves for centering engine / gearbox in cylinder block are available, insert if necessary.
- Ensure that the intermediate plate has been inserted on the sealing flange and is pushed onto the dowel sleeves -arrows-.
- Screw on gearbox to engine ⇒ Gearbox; Rep. gr. 34 .
- When installing the engine/gearbox assembly, ensure clearance to the assembly carrier, AC compressor as well as to the radiator fans.
- Tighten the new screws by hand for attaching the engine/gearbox assembly at the engine and gearbox supports.



For Fabia II, Roomster vehicles

- Adjust assembly mounting and tighten screws
⇒ [“2.1 Summary of components -assembly mounting, Fabia II, Roomster, Rapid NH”, page 29](#) .
- Install pendulum support
⇒ [“2.2 Summary of components - assembly mounting, Octavia II, Yeti”, page 30](#) .

For the vehicles Octavia II, Yeti

- Adjust assembly bracket
⇒ [“2.3.2 Adjusting the unit mounting”, page 31](#) and tighten screws
⇒ [“2.2 Summary of components - assembly mounting, Octavia II, Yeti”, page 30](#) .
- Install pendulum support
⇒ [“2.2 Summary of components - assembly mounting, Octavia II, Yeti”, page 30](#) .

Continued for all vehicles

- Install drive shafts ⇒ Chassis; Rep. gr. 40 .

For vehicles with air conditioning

- Install AC compressor
⇒ [“1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system”, page 36](#) .
- Install the V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .

Continued for all vehicles

- Install slave cylinder ⇒ Gearbox; Rep. gr. 30 .
- Attach shift mechanism and adjust if necessary ⇒ Gearbox; Rep. gr. 34 .
- Install the engine wiring harness and connect to the engine control unit
⇒ [“7.1 Removing and installing engine control unit J623 \(Fabia II, Roomster, Rapid NH\)”, page 290](#) .

For Fabia II, Roomster vehicles

- Install catalytic converter with exhaust pipe
⇒ [“1.8 Removing and installing catalytic converter with exhaust pipe \(Fabia II, Roomster, Rapid NH\)”, page 303](#) .

For the vehicles Octavia II, Yeti

- Install exhaust system
⇒ [“1.2 Summary of components - catalyst and attachments, Octavia II, Yeti”, page 296](#) .



Continued for all vehicles

- Install the battery and pay attention to the necessary work after re-connecting the battery ⇒ Electrical System; Rep. gr. 27 .
- Checking the oil level:
 - ◆ ⇒ Maintenance ; Booklet Fabia II .
 - ◆ ⇒ Maintenance ; Booklet Roomster .
 - ◆ ⇒ Maintenance ; Booklet Octavia II .
 - ◆ ⇒ Maintenance ; Booklet Yeti .
 - ◆ ⇒ Maintenance ; Booklet Rapid NH .
- Top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Interrogate all event memories and delete all event entries which are caused by removing and installing the engine ⇒ Vehicle diagnostic tester.
- Perform a test drive.
- Then perform a vehicle system test and if necessary eliminate the resulting faults.

Tightening torques

Component		Tightening torque
Screws/nuts	M6	10 Nm
	M7	13 Nm
	M8	20 Nm
	M10	45 Nm
	M12	60 Nm
deviations:		
Engine/gearbox connecting screws ⇒ Gearbox; Rep. gr. 34		
Bolts for assembly bracket:		
◆ Fabia II, Roomster, Rapid NH ⇒ “2.1 Summary of components -assembly mounting, Fabia II, Roomster, Rapid NH”, page 29 .		
◆ Octavia II, Yeti ⇒ “2.2 Summary of components - assembly mounting, Octavia II, Yeti”, page 30 .		

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

2 Assembly bracket

⇒ [“2.1 Summary of components -assembly mounting, Fabia II, Roomster, Rapid NH”, page 29](#)

⇒ [“2.2 Summary of components - assembly mounting, Octavia II, Yeti”, page 30](#)

⇒ [“2.3 Checking and adjusting the assembly mounting, Octavia II, Yeti”, page 31](#)

2.1 Summary of components -assembly mounting, Fabia II, Roomster, Rapid NH

⇒ [“2.1.1 Tightening torques”, page 29](#)



Note

- ◆ When installing, first of all insert all screws for bracket and screw in by hand by at least two - three turns.
- ◆ Tighten screws for bracket in the sequence according to the numerical marking in the figures.

2.1.1 Tightening torques

Assembly bracket - engine

2 - 20 Nm + turn a further 90° - replace

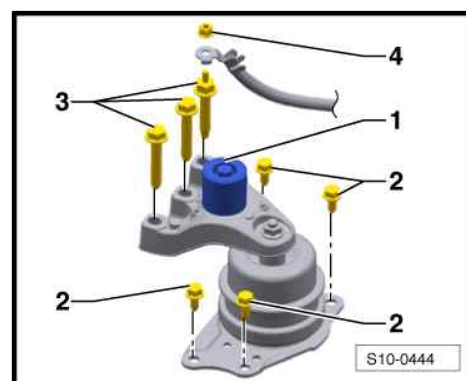
3 - 30 Nm + turn a further 90° - replace

4 - 16 Nm



Note

The assembly mounting can be fitted with a dynamic vibration damper -1-. This damper is an inseparable component part of the assembly bracket - it is not removed.



Assembly bracket - gearbox

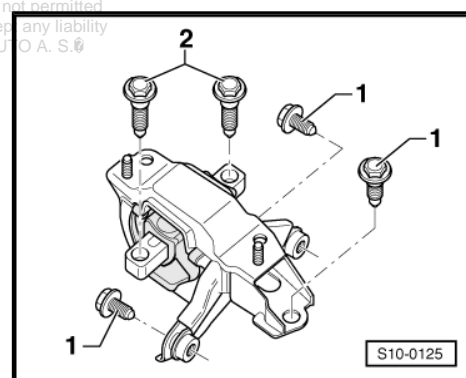


Note

Tighten screws -1- in the following order: back, front and then top.

1 - 50 Nm + turn a further 90° - replace

2 - Tightening torque ⇒ gearbox; Rep. gr. 34





Pendulum support

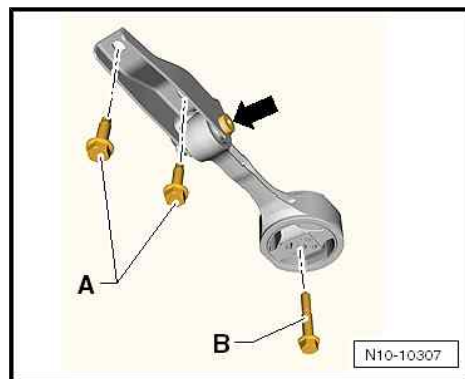


Note

- ◆ *Before tightening the screws -A- press off gearbox in the elongated holes of the pendulum support to the front in such a way that there is maximum distance between the gearbox and the assembly carrier.*
- ◆ *The screwed connection -arrow- must not be loosened.*

A - 30 Nm + turn a further 90° - replace

B - 40 Nm + turn a further 90° - replace



2.2 Summary of components - assembly mounting, Octavia II, Yeti

1 - Gearbox support bracket

2 - Screw

- Tightening torque ⇒ Gearbox; Rep. gr. 34

3 - Engine mounting

4 - Screw

- Replace after removal
- 40 Nm + 90° further

5 - Bracket for activated charcoal filter

6 - Screw

- 9 Nm

7 - Nut

- 9 Nm

8 - Screw

- Replace after removal
- 20 Nm + 90° further

9 - Screw

- 20 Nm + 90° further

10 - Connecting piece

11 - Screw

- Replace after removal
- 40 Nm + 90° further

12 - Screw

- Replace after removal
- 60 Nm + 90° further

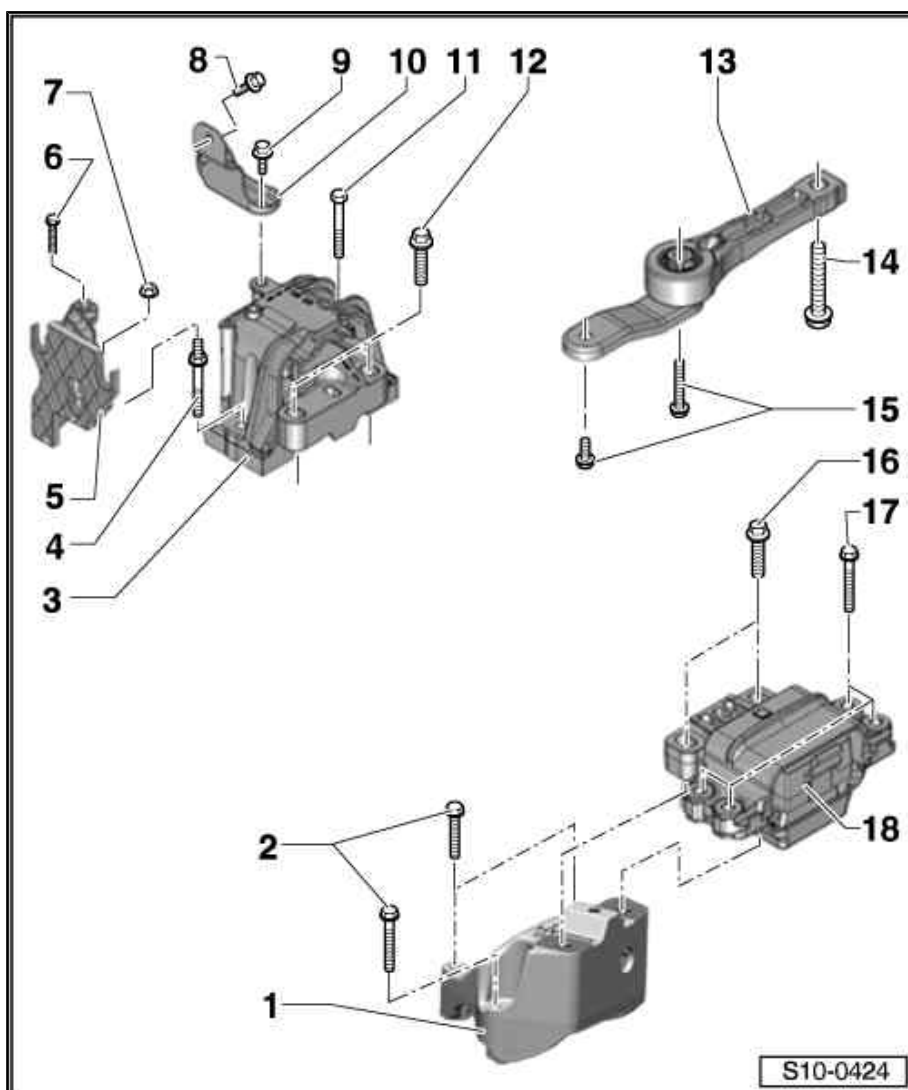
13 - Pendulum support

- Remove: first remove screw -14-, then screws -15-.

- Install: first tighten screws -15-, then screw -14-

14 - Screw

- Replace after removal
- 100 Nm + 90° further



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

15 - Screws

- ☐ Replace after removal
- ☐ Strength class 8.8: 40 Nm + turn a further 90°
- ☐ Strength class 10.9: 50 Nm + turn a further 90°

16 - Screw

- ☐ Replace after removal
- ☐ Tightening torque ⇒ Gearbox; Rep. gr. 34

17 - Screw

- ☐ Replace after removal
- ☐ 40 Nm + 90° further

18 - Gearbox mount

2.3 Checking and adjusting the assembly mounting, Octavia II, Yeti

⇒ [“2.3.1 Checking the assembly bracket”, page 31](#)

⇒ [“2.3.2 Adjusting the unit mounting”, page 31](#)

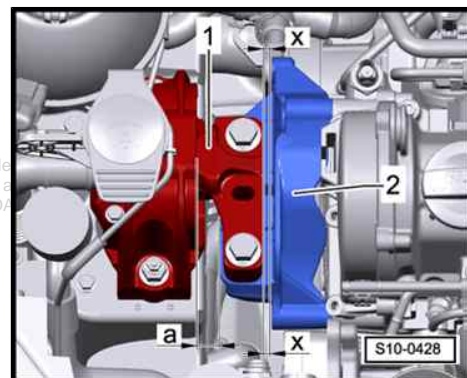
2.3.1 Checking the assembly bracket

- Check dimensions on the right hanger for engine/gearbox unit:
- Between engine bracket and engine support there must be a distance -a- = 10 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm -1- the dimension -x- must be the same at the front and rear.



Note

The distance -a- can be checked, for example with suitable round bars.



Only if there is an acoustic complaint (engine or gearbox knock on the frame side rail when cornering) and the dimension -a- is not 10 mm:

- Adjust the assembly bracket
⇒ [“2.3.2 Adjusting the unit mounting”, page 31](#) .

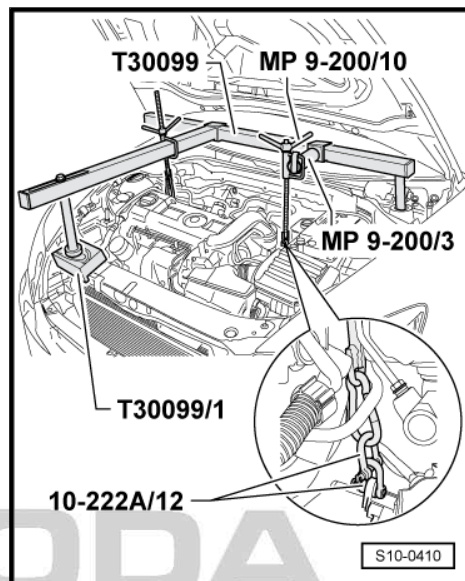
2.3.2 Adjusting the unit mounting

Special tools and workshop equipment required

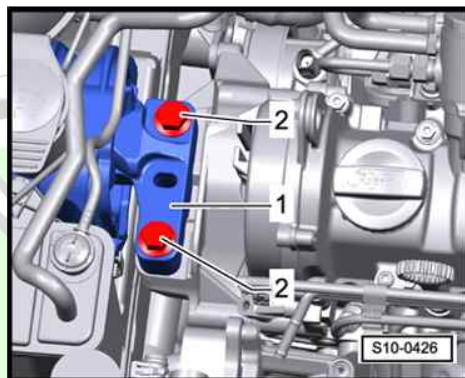
- ◆ Supporting device - T30099-
- ◆ Supporting plate - T30099/1-
- ◆ Adapter - MP9-200/3 (10-222A/3)-
- ◆ Shackle - 10-222A/12-
- ◆ Snap hook
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27 .
- Remove the plenum chamber cover ⇒ Body Work; Rep. gr. 66 .



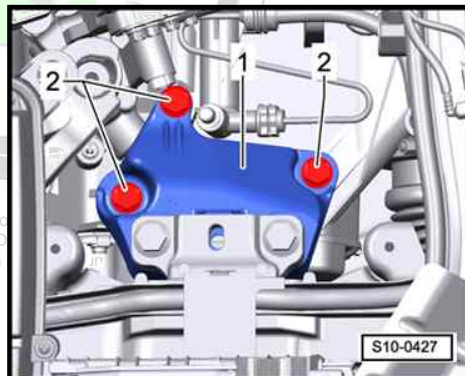
- Fit supporting device - T30099- and support the engine in installation position. The figure shows the version with the 1.4 ltr./90 kW TSI Engine; the hanger is identical.
- Uniformly pre-tension the engine/gearbox assembly at both hooks - MP9-200/10- , but do not raise.



- Release the screws -2- of the assembly bracket at the engine.



- Slightly loosen the screws -2- of the unit mounting at the gearbox (less than 1 revolution).
- Successively replace all the screws of the assembly bracket (as long as it has not already been performed when installing the engine) and insert these loosely.



Protected by copyright. Copying for private or commercial use without permission is prohibited.
unless authorised by ŠKODA AUTO A. S. ŠKODA
with respect to the correctness of information

- Move the engine/gearbox assembly with an assembly lever between the supporting arm of the engine mount -1- and the engine support -2- until the following dimensions are set:
- Between engine bracket and engine support there must be a distance -a- of 10 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm of the engine mount -1-; the dimension -x- must be the same at the front and rear.



Note

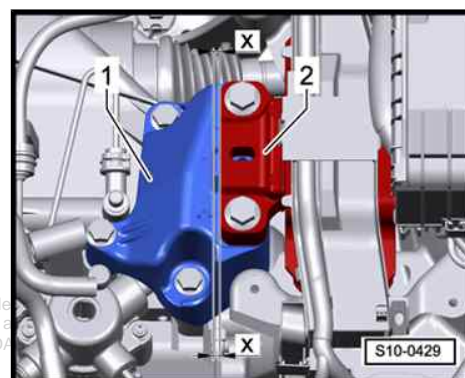
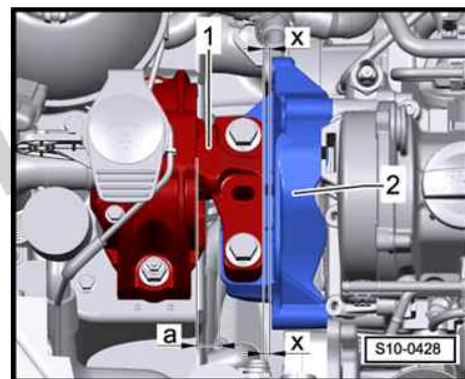
The distance -a- = 10 mm can be checked, for example with suitable round bars.

- Tighten the screws for the engine side assembly mounting.
- Make sure that on the gearbox side the edges of the supporting arm of the gearbox mount -2- and the gearbox support -1- are parallel.
- The dimension -x- must be the same on both mount sides.
- Tighten the screws for the gearbox side assembly mounting.

Further installation occurs in reverse order.

Tightening torques

- ◆ Assembly bracket
⇒ ["2.2 Summary of components - assembly mounting, Octavia II, Yeti", page 30](#).



13 – Crankshaft group

1 Cylinder block (pulley end)

⇒ [“1.1 Assembly overview - V-ribbed belt drive”, page 34](#)

⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#)

⇒ [“1.3 Removing and installing vibration damper”, page 38](#)

⇒ [“1.4 Replacing crankshaft sealing ring on the belt pulley side”, page 42](#)

1.1 Assembly overview - V-ribbed belt drive

⇒ [“1.1.1 Summary of components - V-ribbed belt drive for vehicles without air conditioning system”, page 34](#)

⇒ [“1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system”, page 36](#)

1.1.1 Summary of components - V-ribbed belt drive for vehicles without air conditioning system

1 - V-ribbed belt

- ☐ Routing of the ribbed V-belt ⇒ [page 35](#)
- ☐ mark the direction of rotation with chalk or a felt-tip pen before removing
- ☐ check for wear
- ☐ do not kink
- ☐ Removing and installing
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#)

2 - Vibration damper

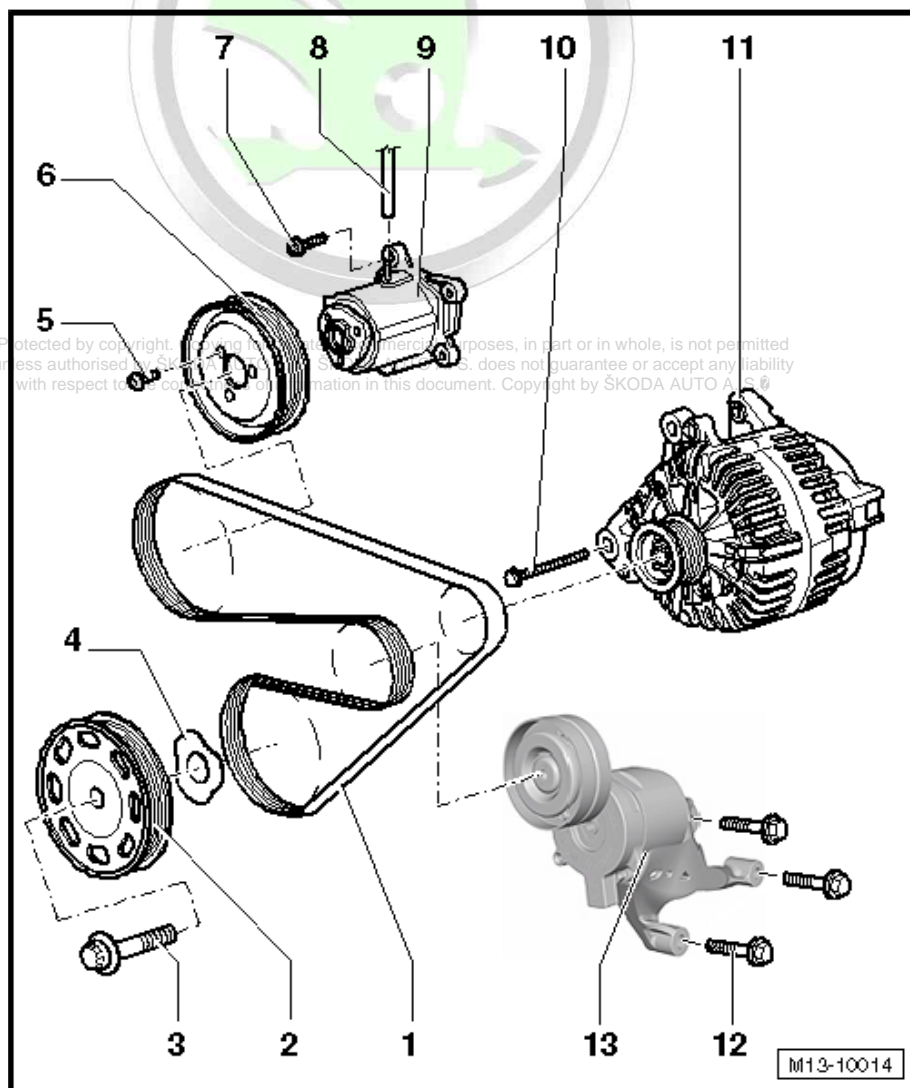
- ☐ Removing and installing
⇒ [“1.3 Removing and installing vibration damper”, page 38](#)
- ☐ Contact surfaces must be free of oil and grease

3 - Screw

- ☐ for vibration damper
- ☐ Replace after removal
- ☐ The contact surface of the fixing screw must be free of grease and oil.
- ☐ insert oiled (thread)
- ☐ Tightening torque; slacken and tighten
⇒ [“1.3 Removing and installing vibration damper”, page 38](#)

4 - Washer

- ☐ diamond coated washer pressed onto the belt pulley



- ☐ replace if damaged

5 - Screw

- ☐ When loosening and tightening, counterhold with the wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)- to this end rework wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)-
⇒ ["2.2 Removing and installing belt pulley for coolant pump", page 147](#)
- ☐ 20 Nm

6 - Belt pulley for coolant pump:

- ☐ Removing and installing ⇒ ["2.2 Removing and installing belt pulley for coolant pump", page 147](#)

7 - Screw

- ☐ 9 Nm

8 - Vacuum hose

- ☐ to solenoid valve for coolant circuit - N492- at intake manifold

9 - Coolant pump

- ☐ Removing and installing ⇒ ["2.3 Removing and installing coolant pump", page 148](#)

10 - Screw

- ☐ 23 Nm

11 - Alternator

- ☐ Removing and installing ⇒ Electrical System; Rep. gr. 27
- ☐ to facilitate the positioning of the AC generator drive the threaded bushings on the generator slightly backwards

12 - Screw

- ☐ 25 Nm

13 - Tensioning device for V-ribbed belt

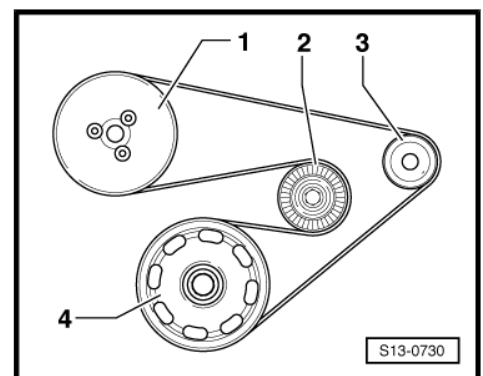
- ☐ swivel tensioning device for V-ribbed belt with wrench to slacken the V-ribbed belt
- ☐ Secure the tensioning device with a 4 mm hexagon wrench or a locating pin - T10060 A-

Routing of the ribbed V-belt

- 1 - Belt pulley for coolant pump:
- 2 - Tensioning pulley
- 3 - Belt pulley for AC generator

6 - Vibration damper

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless expressly permitted in writing by S. ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©





1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system

1 - V-ribbed belt

- ☐ Routing of the ribbed V-belt ⇒ [page 37](#)
- ☐ mark the direction of rotation with chalk or a felt-tip pen before removing
- ☐ check for wear
- ☐ do not kink
- ☐ Removing and installing ⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#)

2 - Screw

- ☐ for vibration damper
- ☐ Replace after removal
- ☐ The contact surface of the fixing screw must be free of grease and oil.
- ☐ insert oiled (thread)
- ☐ Tightening torque; slacken and tighten ⇒ ["1.3 Removing and installing vibration damper", page 38](#)

3 - Vibration damper

- ☐ Removing and installing ⇒ ["1.3 Removing and installing vibration damper", page 38](#)
- ☐ Contact surfaces must be free of oil and grease

4 - Washer

- ☐ diamond coated washer pressed onto the belt pulley
- ☐ replace if damaged

5 - Screw

- ☐ When loosening and tightening, counterhold with the wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)- to this end rework wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)- ⇒ ["2.2 Removing and installing belt pulley for coolant pump", page 147](#)

☐ 20 Nm
For technical information, copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the content of this document. Copyright by ŠKODA AUTO A. S. ©

6 - Belt pulley for coolant pump:

- ☐ Removing and installing ⇒ ["2.2 Removing and installing belt pulley for coolant pump", page 147](#)

7 - Screw

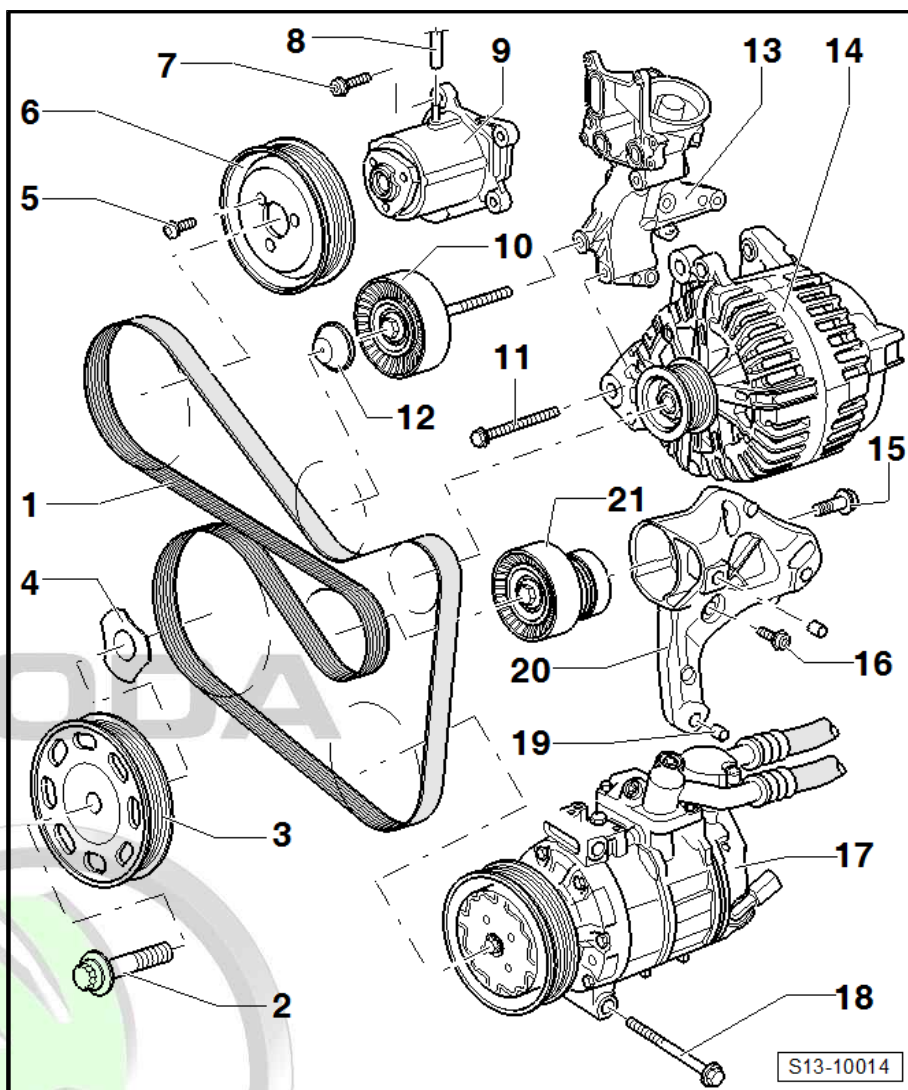
- ☐ 9 Nm

8 - Vacuum hose

- ☐ to solenoid valve for coolant circuit - N492- at intake manifold

9 - Coolant pump

- ☐ Removing and installing ⇒ ["2.3 Removing and installing coolant pump", page 148](#)



10 - Guide pulley

- ☐ 40 Nm

11 - Screw

- ☐ 25 Nm

12 - Plastic cover

13 - Bracket for top auxiliary units

- ☐ with oil filter and engine oil cooler
- ☐ Removing and installing ⇒ [“2.4 Removing and installing bracket for top auxiliary units”, page 53](#)

14 - Alternator

- ☐ Removing and installing ⇒ Electrical System; Rep. gr. 27
- ☐ to facilitate the positioning of the AC generator drive the threaded bushings on the generator slightly backwards

15 - Screw

- ☐ Replace after removal
- ☐ 40 Nm + 90° further

16 - Screw

- ☐ 25 Nm

17 - AC compressor

- ☐ removing and installing ⇒ Heating, Air Conditioning; Rep. gr. 87

18 - Screw

- ☐ 25 Nm

19 - Fitting sleeve

20 - Bracket for bottom auxiliary units

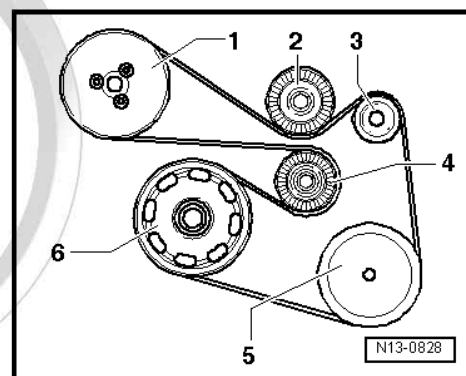
- ☐ for tensioning device and AC compressor
- ☐ Removing and installing ⇒ [“2.5 Removing and installing bracket for bottom auxiliary units”, page 55](#)

21 - Tensioning device for V-ribbed belt

- ☐ swivel tensioning device for V-ribbed belt with wrench to slacken the V-ribbed belt
- ☐ Secure tensioning device with the locking pin - T10060 A- or with a 4 mm hexagonal wrench.
- ☐ to remove, unscrew screw -Pos. 15-

Routing of the ribbed V-belt

- 1 - Belt pulley for coolant pump:
- 2 - Guide pulley
- 3 - Belt pulley for AC generator
- 4 - Tensioning pulley
- 5 - Belt pulley for AC compressor
- 6 - Vibration damper



1.2 Removing and installing V-ribbed belt

Special tools and workshop equipment required

- ◆ Locking pin - T10060 A- or 4 mm hexagon wrench

Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .



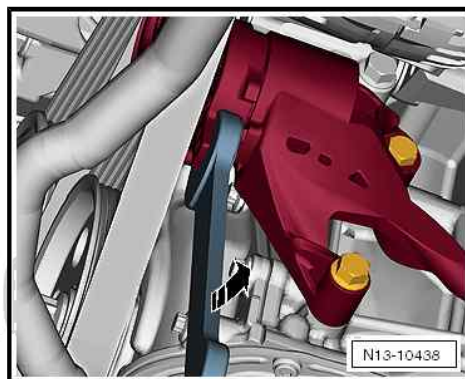
Caution

Risk of damage through reversing the rotation direction of an already used V-ribbed belt.

- ◆ *Mark the direction of rotation with chalk or a felt-tip pen for the re-installation before removing the V-ribbed belt.*

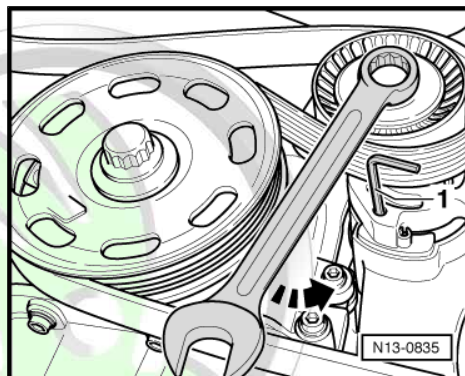
For vehicles without air conditioning

- Loosen the V-ribbed belt by swivelling the tensioning device with a ring spanner -in direction of arrow-.
- Lock the tensioning pulley with the locking pin - T10060 A- or with the 4 mm hexagon wrench.



For vehicles with air conditioning

- Loosen the V-ribbed belt by swivelling the tensioning device with a ring spanner in -direction of arrow-.
- Lock the tensioning pulley with the locking pin - T10060 A- or with the 4 mm hexagon wrench.



Continued for all vehicles

- Remove the V-ribbed belt.

Installing



Note

- ◆ *Before fitting the V-ribbed belt make sure that all assemblies (AC generator, AC compressor, coolant pump) are securely mounted.*
- ◆ *Pay attention to the correct position and rotation direction of the V-ribbed belt in the belt pulley when installing it.*

- First lay the V-ribbed belt on the vibration damper. Then shift the belt onto the tensioning roller.

Further installation occurs in reverse order.

- Start engine and check ribbed V-belt run.

1.3 Removing and installing vibration damper

Special tools and workshop equipment required

- ◆ Counterholder - T30004 (3415)-
- ◆ Bolt - T30004/2 (3415/2)-
- ◆ Locating screw - T10340-



Note

- ◆ In order to avoid the tightening torque of the fixing screw for the vibration damper being altered by slip, the locating screw - T30004- must be used in addition to the counterholder - T10340-.
- ◆ The locating screw - T10340- only locks the crankshaft in direction of rotation of the engine.



Caution

Risk of engine damage!

- ◆ The fixing screw - T10340- must not be used to slacken the fixing screw for the vibration damper - only for tightening!
- ◆ The fixing screw - T10340- must only be screwed in the "TDC" position of the crankshaft.

Removing

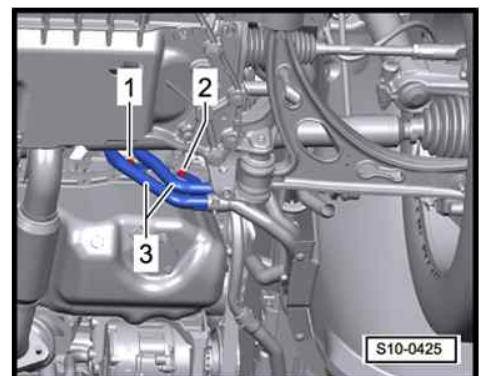
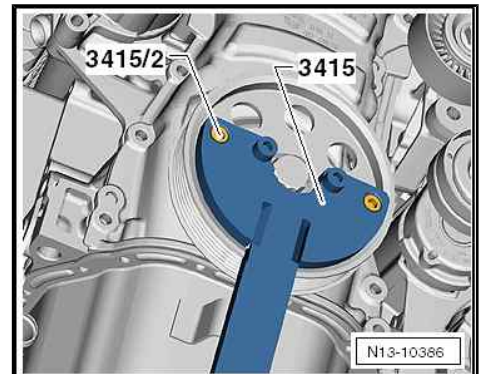
- Remove V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#).
- Rotate the crankshaft in direction of rotation of engine on TDC for cylinder 1 ⇒ ["2.2 Checking valve timing", page 91](#).
- Counterhold belt pulley with counterholder - T30004 (3415)- with bolt - T30004/2 (3415/2)- and release fixing screw for belt pulley.
- Remove the belt pulley together with the diamond coated washer.

Installing

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

Vehicles with auxiliary heating

- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.





Continued for all vehicles

- Release fixing screws -1- and remove bracket for coolant pipe -2-.



Note

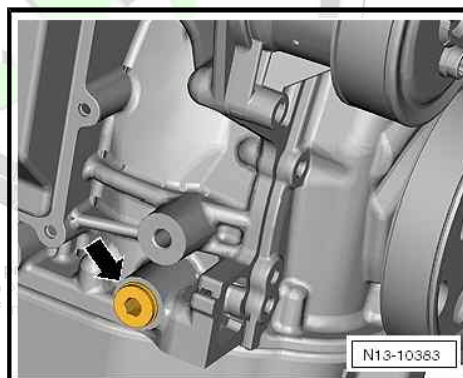
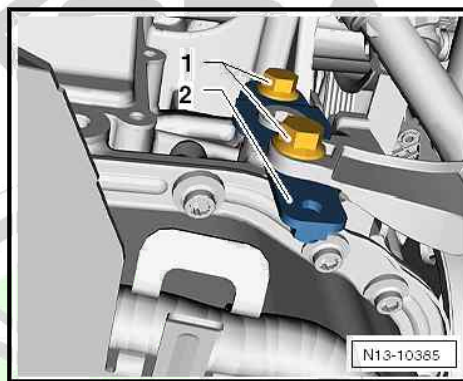
- ♦ *Make sure that all clamping surfaces of the fixing screw are free of oil and grease up to the crankshaft chain sprocket.*
- ♦ *Always only use a new vibration damper screw.*
- Install the belt pulley together with the diamond coated washer and tighten the new fixing screw by hand.
- Release screw plug -arrow- at cylinder block.



Note

- ♦ *Using the fixing screw should prevent the crankshaft from turning when tightening to the tightening torque.*
- ♦ *As a result the tightening torque may not be correct.*

Protected by copyright. Copying for
unless authorised by ŠKODA AUTO
with respect to the correctness of



- Turn the fixing screw - T10340- up to the stop in the cylinder block.



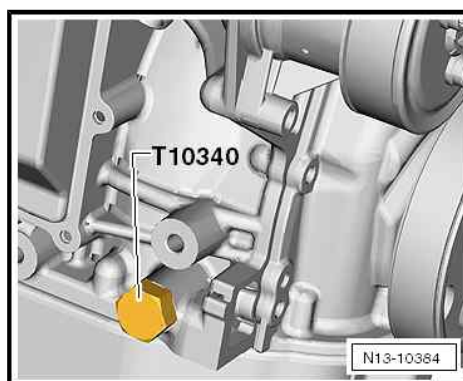
Caution

If the fixing screw - T10340 - cannot be screwed in up to the stop, the crankshaft is not in the correct position!

In this case proceed as described below.

- Unscrew locking pin.
- Turn the crankshaft 90° in the running direction of the engine.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.
- Turn crankshaft up to the stop in direction of rotation of engine.

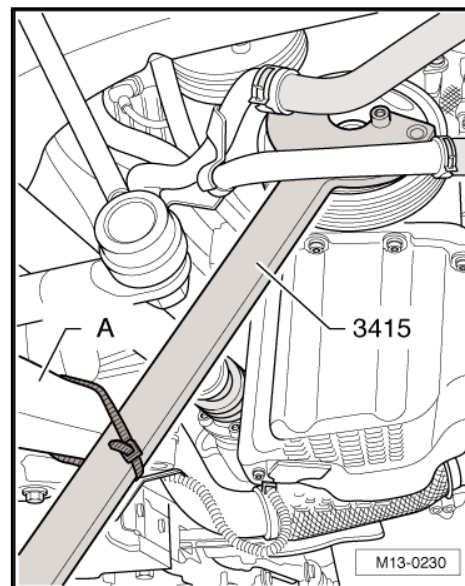
The crankshaft is locked in direction of rotation of engine with the locating screw - T10340- .



Caution

Absolutely use the counterholder - T30004 (3415)- with bolt - T30004/2 (3415/2)- when tightening the fixing screw of the belt pulley in order to avoid damage to the fixing screw.

- Insert counterholder - 3415- with the bolt - 3415/1- into the holes of the vibration damper, support counterholder at track control arm -A- and secure in this position with a cable strap.
- Tighten the vibration damper fixing screw in two stages:



Stage 1: Tightening torque 150 Nm

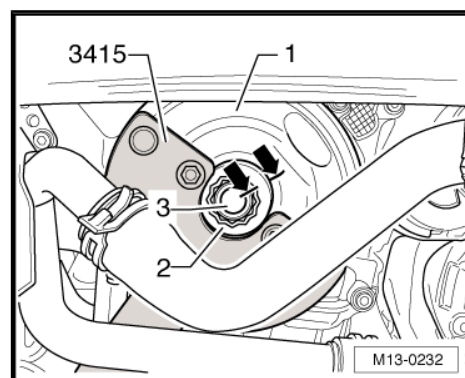
- Mark the position of the fixing screw -3- to the vibration damper -1- -arrow-.



Note

The mark must not be on the washer -2-, because the washer does not turn at the same time as the fixing screw -3- is tightened.

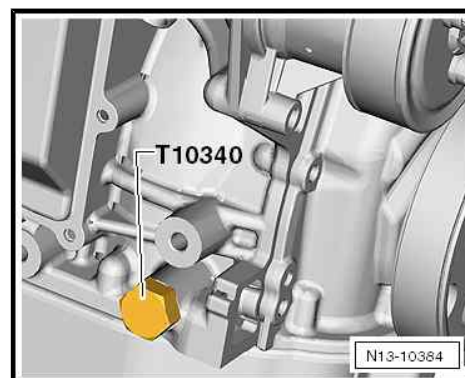
- Tighten the vibration damper fixing screw in the 2nd stage as follows:



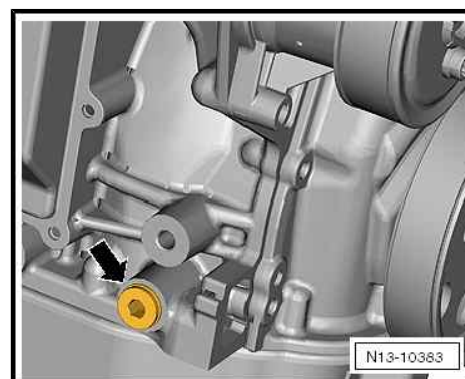
Stage 2: Turn the bolt a further 180 °.

Tightening may occur in successive stages.

- Unscrew the locating screw - T10340- from the cylinder block.



- Screw the screw plug again into the cylinder block.

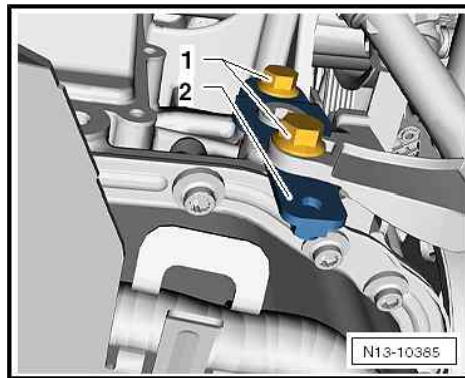


- Install bracket for coolant pipe -2- and tighten screws -1-.
- Install the V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .

Further installation occurs in reverse order.

Tightening torques

Component	Tightening torque
M6 screw for bracket/coolant pipe	10 Nm
M8 screw for bracket/coolant pipe	20 Nm
Screw for non-return valve	8 Nm
Screw plug for bore in the cylinder block	30 Nm
Locating screw - T10340-	30 Nm



1.4 Replacing crankshaft sealing ring on the belt pulley side

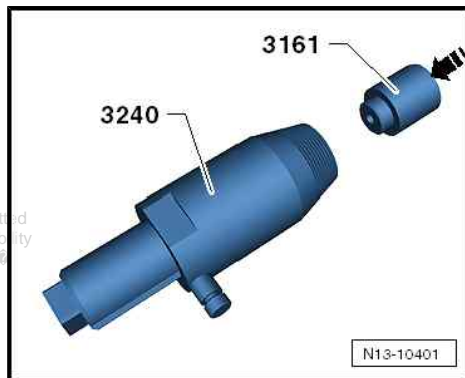
Special tools and workshop equipment required

- ◆ Sealing ring extractor - 3240-
- ◆ Thrust piece - T30015 (3161)-
- ◆ Assembly tool - T10417-

Removing

- Remove vibration damper
⇒ [“1.3 Removing and installing vibration damper”, page 38](#) .
- Push the thrust piece - 3161- into the sealing ring extractor - 3240- .
- Unscrew the inner part of the gasket ring extractor - 3240- up to the beginning of the thread and lock with the knurled screw.

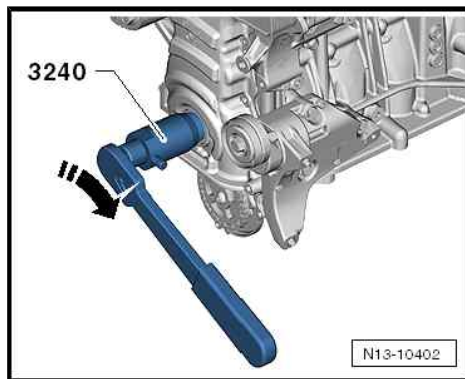
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



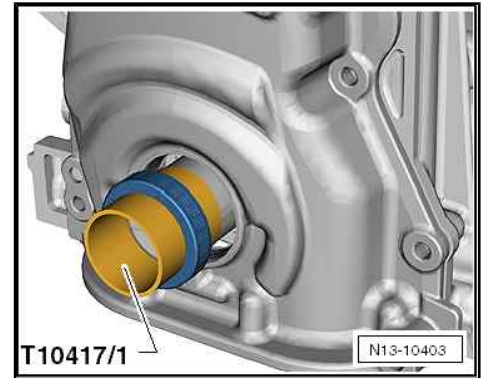
- Oil the thread head of the sealing ring extractor - 3240- , position and apply pressure when screwing it into the sealing ring as far as possible.
- Slacken knurled screw and turn inner side in -direction of arrow- against the crankshaft until the gasket ring is pulled out.

Installing

- Installation position: Closed side of sealing ring points to the receiver tube.

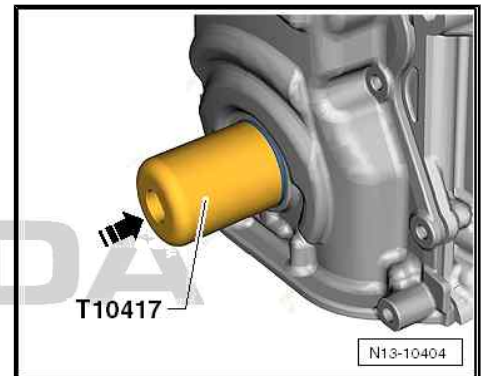


- Position the sleeve - T10417/1- on the crankshaft stub and push the gasket ring over the sleeve.
- Remove the sleeve - T10417/1- from the crankshaft stub.



- Press the gasket ring with the assembly device - T10417- by striking uniformly up to the stop in the timing case.
- Install vibration damper
⇒ [“1.3 Removing and installing vibration damper”, page 38](#) .

Further installation occurs in reverse order.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

2 Cylinder block on gearbox side

⇒ [“2.1 Summary of components - cylinder block”, page 44](#)

⇒ [“2.2 Removing and installing flywheel”, page 45](#)

⇒ [“2.3 Removing and installing sealing flange on gearbox side”, page 46](#)

⇒ [“2.4 Removing and installing bracket for top auxiliary units”, page 53](#)

⇒ [“2.5 Removing and installing bracket for bottom auxiliary units”, page 55](#)

2.1 Summary of components - cylinder block

1 - Screw

- ☐ for vibration damper
- ☐ Replace after removal
- ☐ The contact surface of the fixing screw must be free of grease and oil.
- ☐ insert oiled (thread)
- ☐ Tightening torque
⇒ [“1.3 Removing and installing vibration damper”, page 38](#)

2 - Vibration damper

- ☐ Removing and installing
⇒ [“1.3 Removing and installing vibration damper”, page 38](#)
- ☐ Contact surfaces must be free of oil and grease.

3 - Washer

- ☐ diamond coated washer pressed onto the belt pulley
- ☐ replace if damaged

4 - Sealing ring

- ☐ Replace after removal
- ☐ Removing and installing
⇒ [“1.4 Replacing crankshaft sealing ring on the belt pulley side”, page 42](#)

5 - Engine

6 - Screw

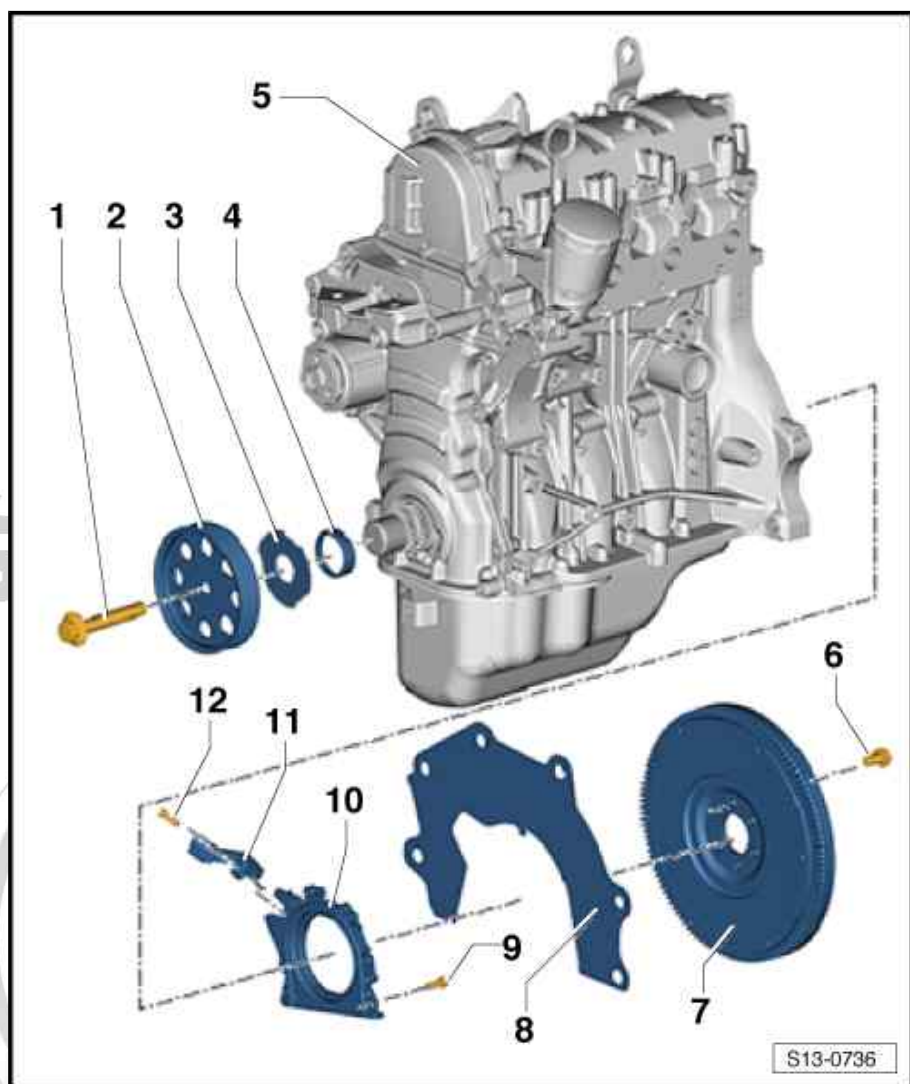
- ☐ Replace after removal
- ☐ 60 Nm + 90° further

7 - Flywheel

- ☐ on vehicles with automatic gearbox - the two-mass flywheel version
- ☐ Removing and installing ⇒ [“2.2 Removing and installing flywheel”, page 45](#)

8 - Intermediate plate

- ☐ do not damage/bend during assembly work
- ☐ installing ⇒ [page 45](#)



9 - Screw

- ☐ Replace after removal
- ☐ Tightening torque and tightening order ⇒ [page 45](#)

10 - Sealing flange on the gearbox side

- ☐ Replace sealing flange complete with oil seal and sender wheel only
- ☐ Replace ⇒ [“2.3 Removing and installing sealing flange on gearbox side”, page 46](#)

11 - engine speed sender - G28-

- ☐ with captive screw
- ☐ Removing and installing ⇒ [“1.2 Removing and installing the engine speed sender G28”, page 311](#)
- ☐ 5 Nm

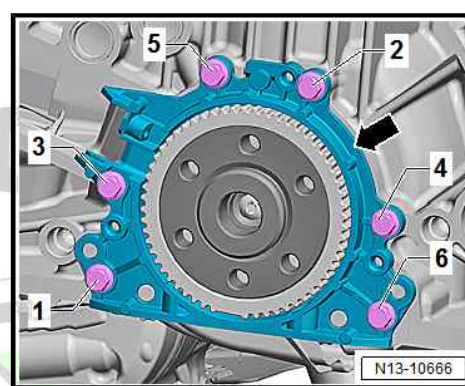
12 - Screw

- ☐ Tightening torque ⇒ [“1.1 Assembly overview - ignition system”, page 310](#)

Sealing flange on the gearbox side - tightening torque and tightening order

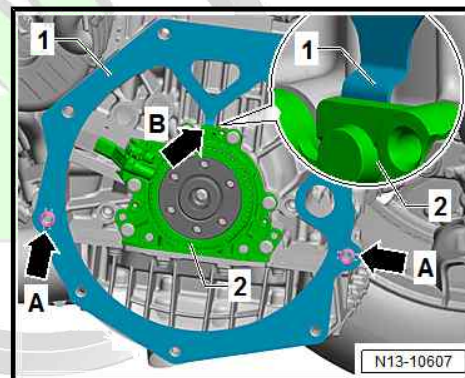
- Tighten screws in steps as follows:

Stage	Screws	Tightening torque
1.	-1 ... 6-	by hand as far as the stop
2.	-1 ... 6-	tighten crosswise in steps up to 10 Nm



Installing intermediate plate

- Mount intermediate plate -1- on sealing flange -2- arrow -B- and push onto the dowel sleeves arrows -A-.



2.2 Removing and installing flywheel

Special tools and workshop equipment required

- ◆ Counterholder - MP1-223 (3067)-

Removing

- Gearbox removed.

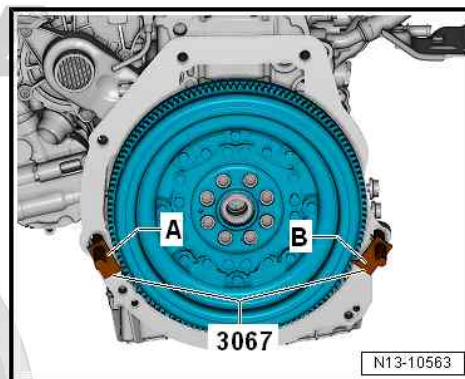


- Remove clutch on vehicles with manual gearbox ➔ Gearbox; Rep. gr. 30 .
- Insert the counterholder - MP1-223 (3067)- into the bore hole on the cylinder block.

• Fitting position of the tool:

A - for tightening

B - for slackening



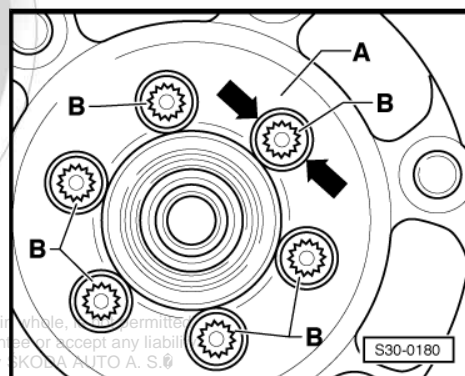
Vehicles with two-mass flywheel

- Rotate the secondary side -A- of the two-mass flywheel in such a way that the screws -B- are positioned in the middle of the holes -arrows-.



Caution

When unscrewing the screws -B-, ensure that no screw head catches on the secondary side -A- of the two-mass flywheel, otherwise it will be damaged.



Continued for all vehicles

- Unscrew screws and remove flywheel.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

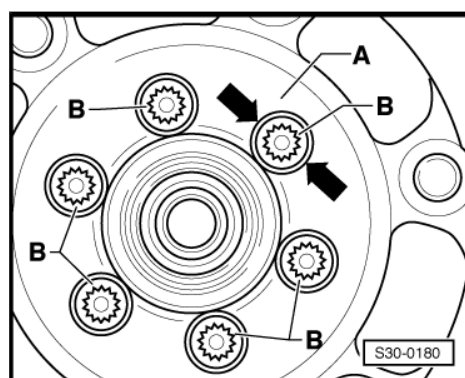
Use new screws for attaching.

Vehicles with two-mass flywheel

- Rotate the secondary side -A- of the two-mass flywheel in such a way that the screws -B- are positioned in the middle of the holes -arrows-.

Continued for all

1. Screw in all the screws by hand.
2. Tighten all the screws crosswise to 60 Nm.
3. Turn all screws a further 90° crosswise.



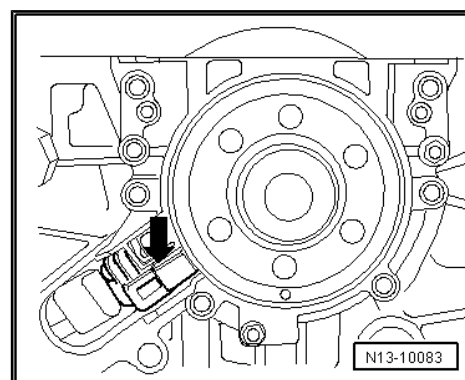
2.3 Removing and installing sealing flange on gearbox side

Special tools and workshop equipment required

- ◆ Assembly tool - T10134-
- ◆ Depth gauges , e.g. -VAS 6082-
- ◆ 3 hexagon screws M6x35 mm

Condition

- Gearbox removed.
- Remove flywheel and take off intermediate plate.
- Position engine on TDC for cylinder 1
⇒ [“2.2 Checking valve timing”, page 91](#) (do not remove the screw cap for the camshafts).
- Removing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#).
- Remove engine speed sender - G28- -arrow-.



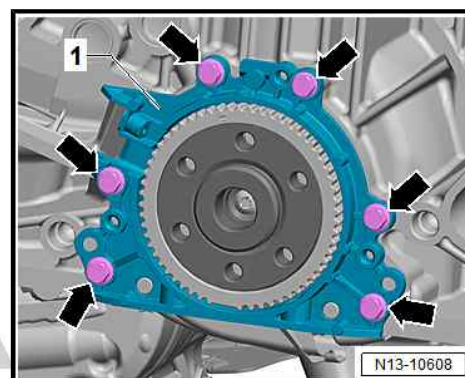
- Unscrew fixing screws -arrows- of the sealing flange -1-.



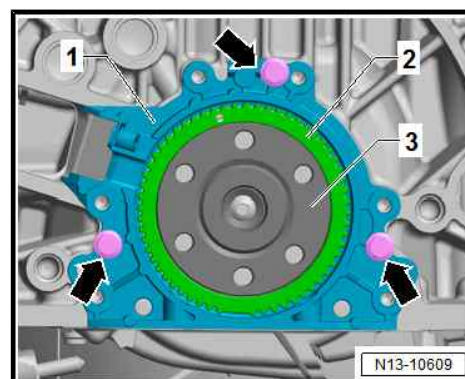
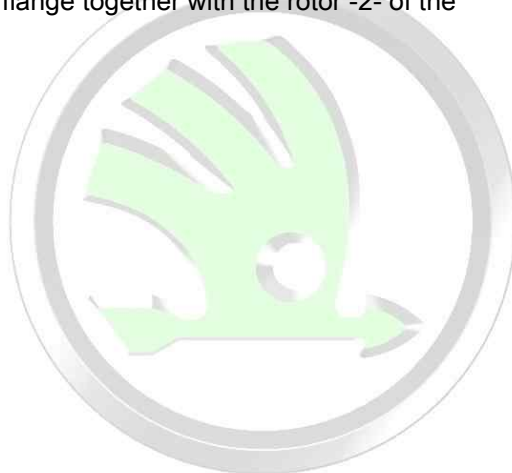
Note

Sealing flange and sender wheel are pressed together by three M6 x 35 mm screws of the cylinder block.

ŠKODA



- Alternately screw three screws -arrow- (max. 1/2 turn (180°) per screw) into the threaded holes of the sealing flange -1- and pull off the sealing flange together with the rotor -2- of the crankshaft -3-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

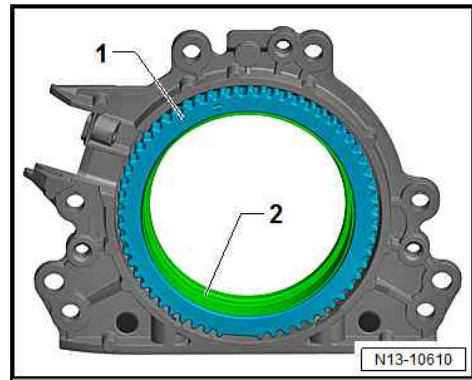


Press sealing flange with sensor rotor onto the crankshaft



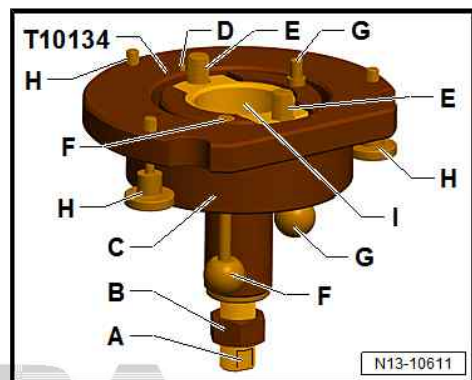
Note

- ◆ The sealing flange with PTFE sealing ring is provided with sealing lip supporting ring -2-. This support ring serves as a fitting sleeve and must not be removed prior to installation.
- ◆ Do not separate or turn the sealing flange and rotor -1- after removing them from the spare part package.
- ◆ The rotor is given its fitting location by fixing the assembly tool - T10134- to the positioning pin.
- ◆ Sealing flange and sealing ring form one unit and must only be renewed together with the transmitter wheel.
- ◆ The assembly tool - T10134- is given its fitting location to the crankshaft by means of a guide bolt, which is guided into a hole of the crankshaft.



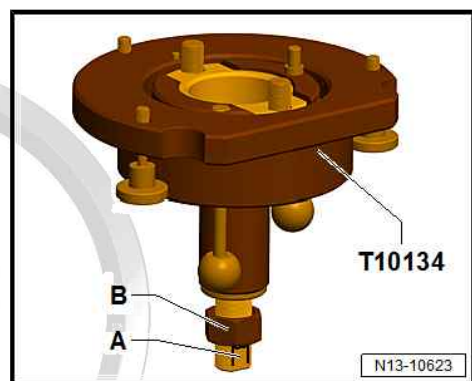
Assembly tool - T10134-

- A - Clamping surface
- B - Hexagon nut
- C - Assembly housing
- D - Locating pin
- E - Hexagon socket head bolt
- F - Guide bolts for petrol engines
- G - Guide bolts for diesel engines
- H - Knurled screws
- I - Inner part

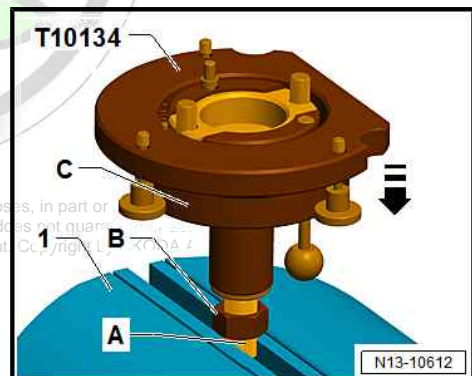


Mounting sealing ring with sender wheel on assembly tool - T10134-

- Screw on nut -B- until just before it touches the clamping surface -A- of the threaded spindle.



- Grip assembly tool - T10134- at clamping surface -A- of the threaded spindle in a vice.
- Press assembly housing -C- downwards until it lies on hexagon nut -B-.
- Screw nut onto threaded spindle until inner part of assembly tool and assembly housing are at same height.



- 

1

N13-10628

-
- A technical line drawing of the front view of a bearing housing. The housing is circular with a large central bore. It features eight mounting lugs around the perimeter, each with a bolt hole. Label 'A' points to the top mounting lug. Label 'B' points to the top edge of the housing. Label 'C' points to the inner bore. A small tab is visible on the left side. A box at the bottom right contains the text 'S13-0636'.

-
- 1
- N13-10613



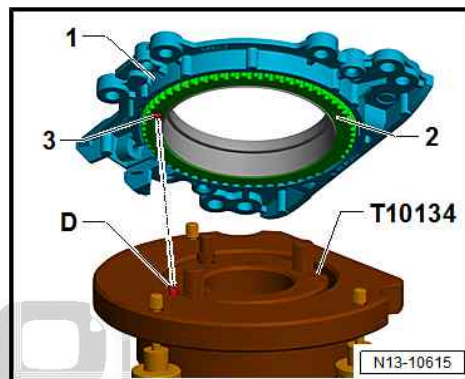


- Lay the sealing flange with the front side on the assembly tool - T10134- in such a way that the positioning pin -D- engages into the hole -3- of the sensor rotor -2-.



Note

Make sure the sealing flange lies flat on the assembly device.

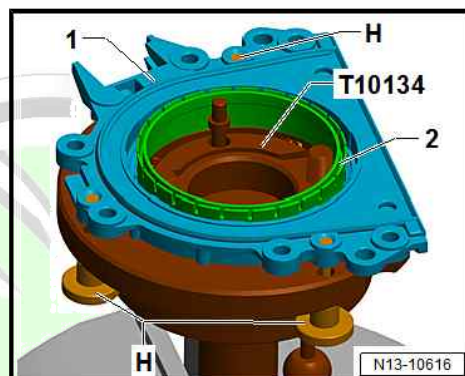


- Press on the sealing flange -1- and sealing lip supporting ring -2- by tightening the 3 knurled screws -H- onto the surface of the assembly tool - T10134- .



Note

- ♦ *This prevents locating pin from slipping out of sender wheel hole.*
- ♦ *When installing the sealing flange, ensure that the sender wheel remains fixed in the assembly device.*



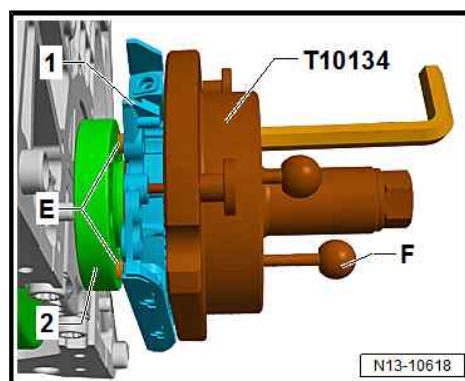
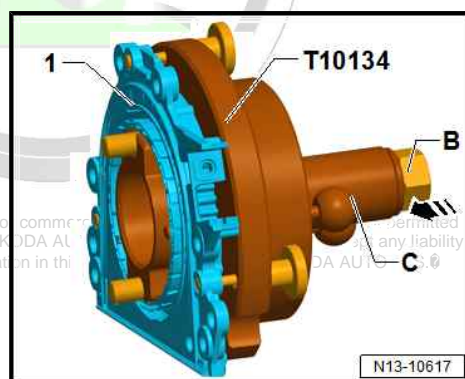
Mount assembly tool - T10134- with sealing flange on crankshaft flange

- The crankshaft flange must be free of grease and oil.
- Crankshaft is at TDC for cylinder 1.
- Screw out nut -B- on until it reaches end of threaded spindle.
- Press the threaded spindle of the assembly tool - T10134- in -direction of arrow- until the nut -B- rests against the assembly cup -C-.
- Align flat side of assembly housing to the cylinder block sealing surface on the oil sump side.
- Secure the assembly tool - T10134- and the sealing flange -1- with Allan screws -E- to the crankshaft flange.

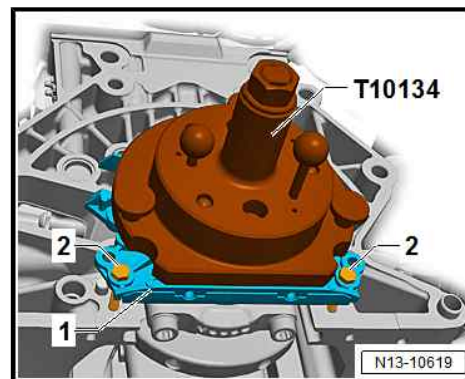


Note

Screw in Allan screws -E- into the crankshaft flange by approx. five thread turns.

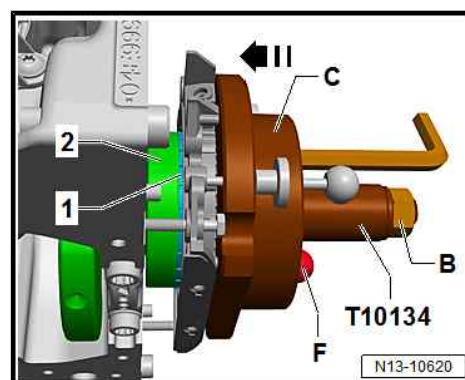


- Screw in two M6x35 mm screws -2- by about 3 turns for sealing flange guide -1- into the cylinder block.



Bolt assembly tool - T10134- onto crankshaft flange.

- Push the assembly cup -C- by hand in the -direction of the arrow- until the sealing lip supporting ring -1- rests on the crankshaft flange -2-.
- Push guide pin for petrol engines (red knob) -F- into hole in crankshaft. This gives the rotor its final installation position.
- Tighten the two Allan screws hand-tight.
- Screw nut -B- onto threaded spindle by hand until it lies against assembly housing -C-.



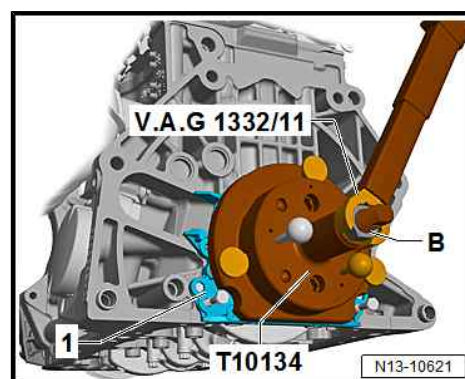
Press sender wheel onto crankshaft flange using assembly tool - T10134-

- Tighten nuts -B- on the assembly tool - T10134- with torque wrench to 35 Nm.



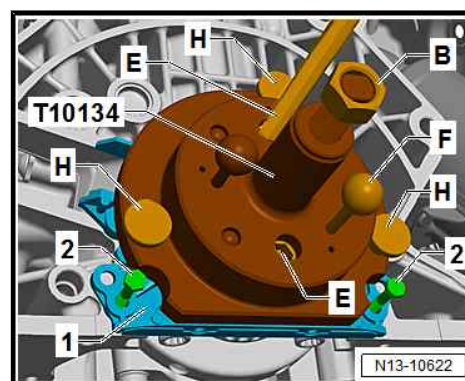
Note

After tightening the nut to 35 mm there must still be a narrow air gap between the cylinder block and the sealing flange.



Checking sender wheel installation position on crankshaft

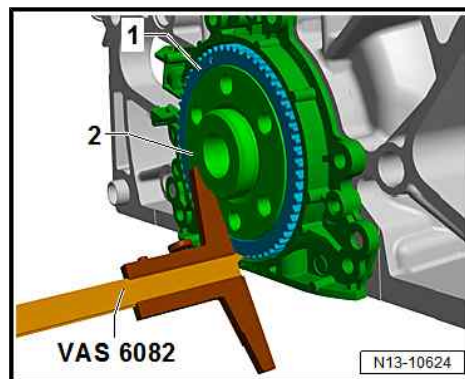
- Screw nut -B- on until it reaches end of threaded spindle.
- Unscrew bolts-2- from the intake manifold.
- Unscrew the knurled screws -H- from the sealing flange.
- Unscrew the Allan screws -E- from the crankshaft flange.
- Remove assembly tool - T10134- .
- Remove sealing lip support ring.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Place caliper gauge on crankshaft flange.



- Measure distance -a- between crankshaft flange -2- and rotor -1-.

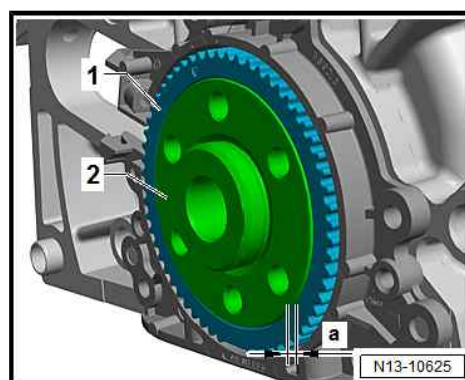
The fitting position of the rotor on the crankshaft is accurate if there is a distance -a- = 0.5 mm between the crankshaft flange -A- and the rotor -B-.

If dimension »a« is too small:

- Press down rotor ➔ [page 52](#) .

If dimension »a« is achieved:

- Tighten the new fixing screws of the sealing alternately cross-wise.
- Install engine speed sender - G28-
➔ ["1.2 Removing and installing the engine speed sender G28"](#), [page 311](#) .
- Installing the oil pan
➔ ["1.2 Removing and installing oil pan"](#), [page 125](#) .
- Installing intermediate plate.
- Install flywheel with new screws.



Re-pressing sender wheel

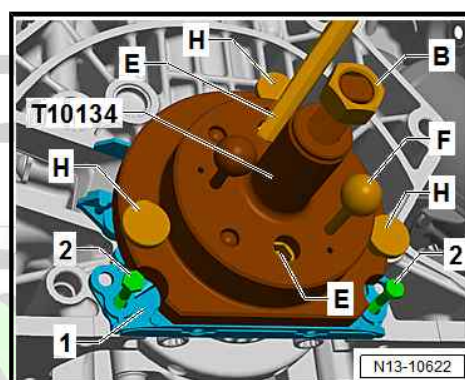
- Secure the assembly tool - T10134- and with Allan screws -E- to the crankshaft flange.



Note

Make sure the positioning pin of the assembly tool - T10134- engages in the bore of the rotor.

- Tighten the two Allan screws -E- hand-tight.
- Press the assembly tool - T10134- against the sealing flange -1- by hand.
- Screw nut -B- onto threaded spindle by hand until it lies against the assembly housing - T10134- .
- Push guide pin for petrol engines (red knob) -F- into hole in crankshaft.
- Screw the knurled screws -H- into the flange -1-.
- Screw two screws M6x35 mm -2- into the cylinder block to guide the sealing flange -1-.



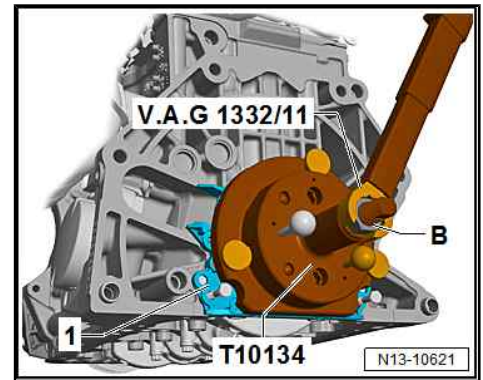
- Tighten nut -B- of the assembly tool - T10134- to 40 Nm.
- Check the fitting position of the rotor on the crankshaft again
⇒ [page 51](#) .

If the dimension »a« is too small again:

- Tighten nut for the assembly device - T10134- to 45 Nm.
- Check the fitting position of the rotor on the crankshaft again
⇒ [page 51](#) .

Tightening torques

- ◆ Sealing flange on the gearbox side
⇒ ["2.1 Summary of components - cylinder block", page 44](#) .
- ◆ Engine speed sender - G28-
⇒ ["2.1 Summary of components - cylinder block", page 44](#) .
- ◆ Flywheel to crankshaft
⇒ ["2.1 Summary of components - cylinder block", page 44](#) .



2.4 Removing and installing bracket for top auxiliary units

Removing

Special tools and workshop equipment required

- ◆ Catch pan , e.g. -VAS 6208-
- ◆ Hose binding claw

Removing

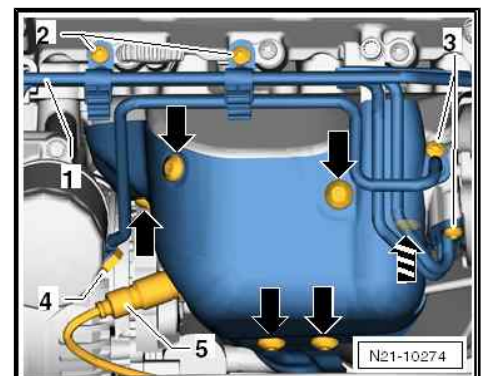
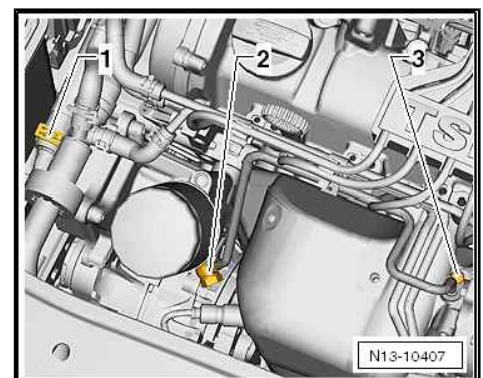
- Remove V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#) .
- Remove the generator ⇒ Electrical System; Rep. gr. 27 .
- Drain the coolant from the cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .
- Open the spring strap clamp -1- with the hose binding claw and detach the coolant hose.



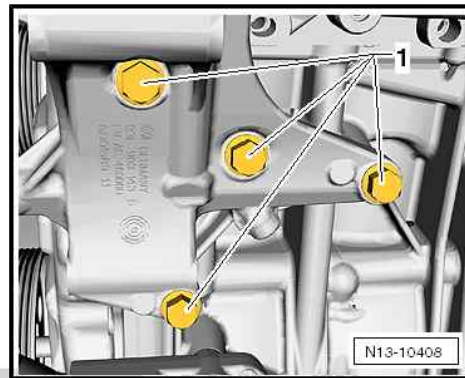
Note

When removing the oil feed line, make sure that the oil does not penetrate into the generator! Therefore, cover the generator with a clean cloth!

- Unscrew hollow screw -2- and fixing screw -3- and remove the oil feed line.
- Unscrew securing bolts -2- and -3- and remove coolant pipes.
- Remove screws -arrows- and remove heat protection plate.

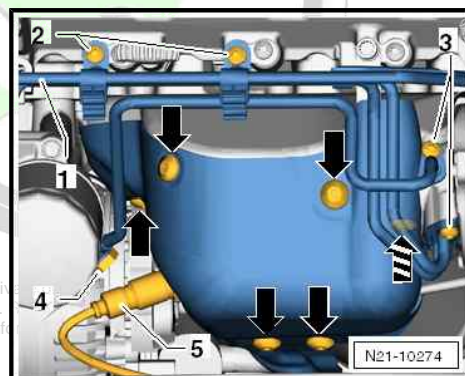
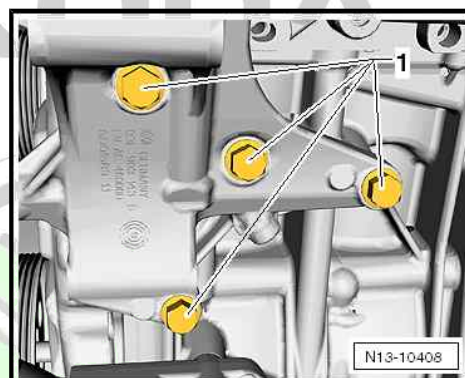


- Unscrew fixing screws -1- and remove bracket.



Installing

- Fit the bracket for auxiliary units to the cylinder block.
- Tighten fixing screws -1-.
- Tighten -arrows- the heat shield fastening screws.
- Install the supply line and insert the screws -2-, -3- and -4-.

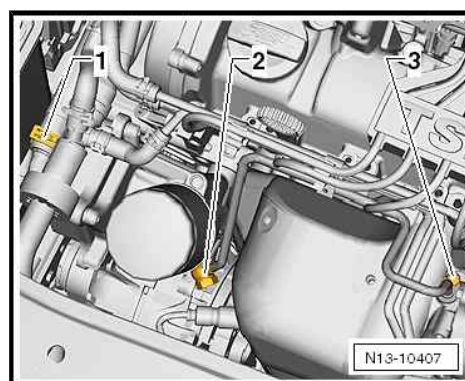


- Connect coolant hose -1- and secure it to the engine oil cooler.
- Top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Inspect coolant level in the coolant expansion reservoir, top up with coolant if necessary.
- Install generator ⇒ Electrical System; Rep. gr. 27 .
- Install the V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .

Further installation occurs in reverse order.

Tightening torques

- ♦ Screw for oil line to exhaust gas turbocharger
⇒ [“1.1.2 Summary of components 2 - exhaust gas turbocharger”, page 247](#) .



Component	Tightening torque
Screws for the bracket for top auxiliary units	25 Nm

2.5 Removing and installing bracket for bottom auxiliary units



Note

Only vehicles with air conditioning.

Removing

- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .
- Remove the generator ⇒ Electrical System; Rep. gr. 27 .



WARNING

Risk of injury through refrigerant.

- ◆ ***Do not open the refrigerant circuit of the air conditioning system.***



Caution

Risk of damaging refrigerant lines and hoses.

- ◆ ***Do not over-tension or buckle refrigerant lines and hoses.***

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

- Remove AC compressor from the bracket
⇒ [“1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system”, page 36](#) .
- Mount the AC compressor in such a way that the refrigerant lines/hoses are not under tension.
- Unscrew fixing screws -1- and remove holder with tensioning element.

Installing

- Place bracket for auxiliary units on cylinder block and tighten securing nuts -1-.

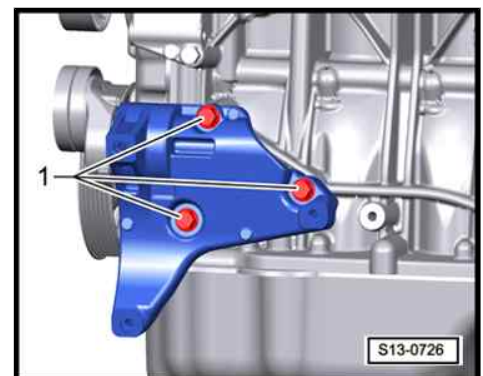
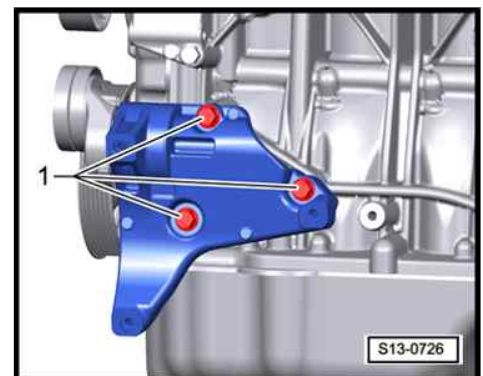
Tightening torque of tensioning device:

⇒ [“1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system”, page 36](#) .

Further installation occurs in reverse order.

Tightening torques

- ◆ Screws for the bracket for bottom auxiliary units
⇒ [“1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system”, page 36](#) .



⇒ **“3.1 Replace needle bearing for crankshaft”, page 56**

⇒ **“3.2 Measuring axial play of crankshaft”, page 56**

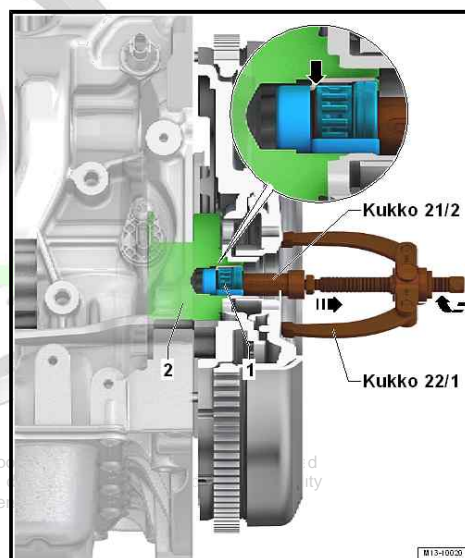
Only on vehicles equipped with automatic gearbox.

Automatic gearbox.
No tax required

- ◆ Centering mandrel - T30029 (3176)-
- ◆ Interior extractor - Kukko 21/2-
- ◆ Countersupport - Kukko 22/1-

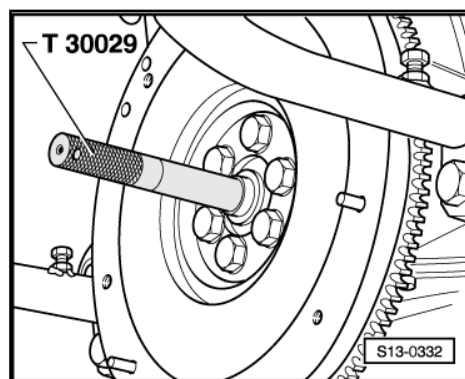
extractor - Kukko 21/2-

- Pull out needle bearing with interior extractor - Kukko 21/2- and countersupport - Kukko 22/1- .



Copyright. Copying for private or commercial purposes without the written permission of ŠKODA AUTO A. S. is prohibited. ŠKODA AUTO A. S. does not assume any liability for the correctness of information in this document.

- Drive in needle bearing with centring mandrel - T30029- flush with the crankshaft face.



Special tools and workshop equipment required

- ◆ Universal dial gauge bracket - VW 387-
- ◆ Dial gauge , e.g. -VAS 6079-



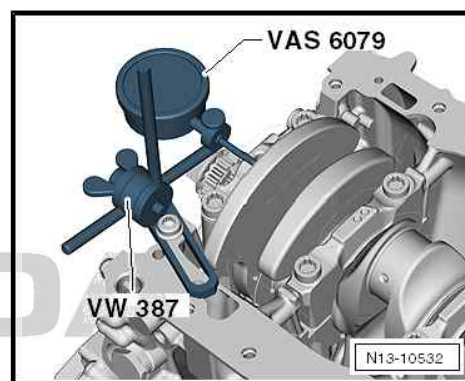
Caution

The crankshaft must not be removed. Merely releasing the screws of the crankshaft bearing cover will result in deformations of the bearing seats of the cylinder block. This deformation will cause a reduction of the bearing clearance. If the bearing shells are not renewed bearing damage could occur due to a different bearing clearance.

If the bearing cap bolts are loosened, the cylinder block must be renewed complete with the crankshaft.

Measuring the crankshaft bearing clearance is not possible with normal workshop equipment.

- Secure dial gauge - VAS 6079- with the universal dial gauge bracket to the camshaft housing - VW 387- , as shown in the illustration.
- Place dial gauge against the crankshaft cheek.
- Press crankshaft against the dial gauge and set dial gauge to "0".
- Press the crankshaft off the dial gauge and read the measured value.
- Axial clearance: 0.103 - 0.29 mm.
- Wear limit: 0,45 mm



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



4 Pistons and conrods

⇒ [“4.1 Assembly overview - piston and conrod”, page 58](#)

⇒ [“4.2 Inspect piston, piston rings and cylinder bore”, page 59](#)

⇒ [“4.3 Separating new connecting rod”, page 61](#)

⇒ [“4.4 Removing and installing oil injection nozzles”, page 61](#)

4.1 Assembly overview - piston and conrod



Note

Before assembly, oil all bearing and contact surfaces.

1 - Circlip

2 - Piston pin

- ☐ If difficult to remove, heat piston to 60 °C.
- ☐ use drift - T10046- for removing and installing

3 - Piston

- ☐ Check ⇒ [page 60](#)
- ☐ Mark the installation position and the assignment to cylinder
- ☐ arrow on the piston crown faces towards the belt pulley side
- ☐ Install using piston ring tensioning strap
- ☐ Piston Ø: 70.95 mm (nominal dimension)
- ☐ Cylinder Ø: 71.00 mm (nominal dimension)

4 - Piston rings

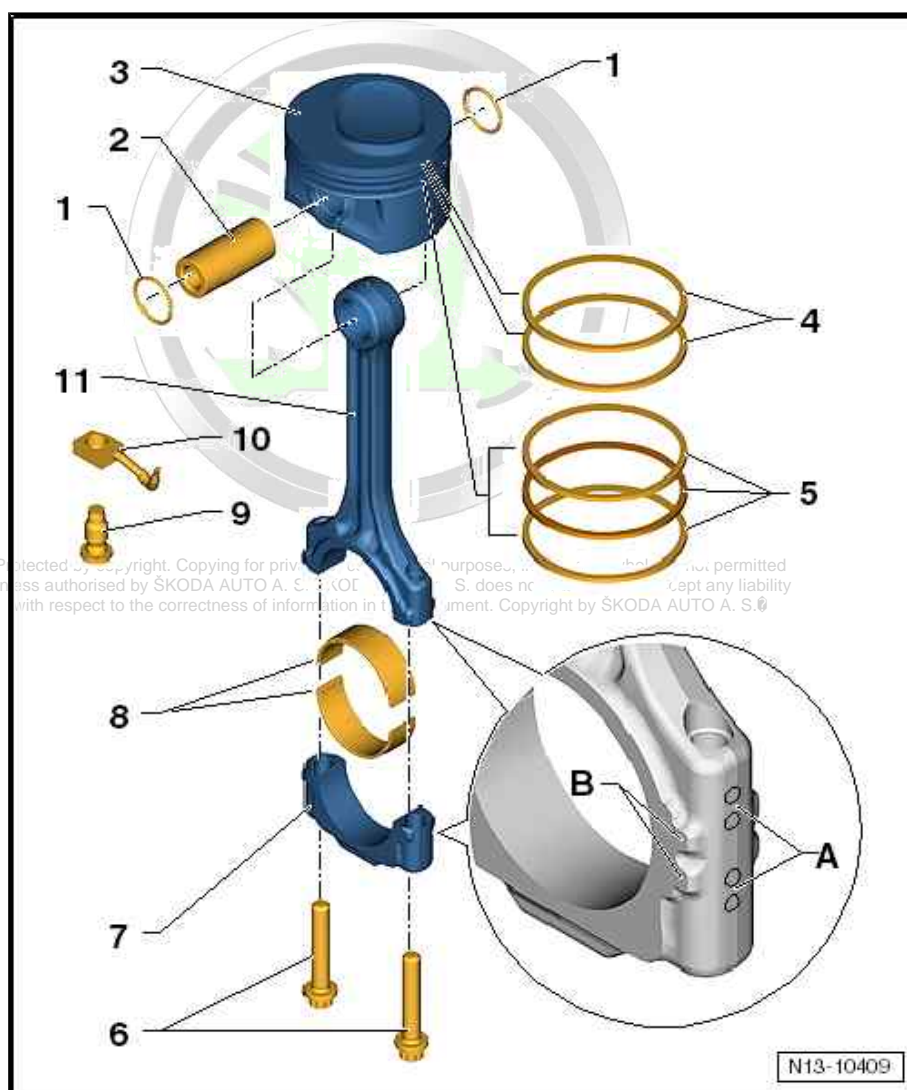
- ☐ Offset gaps by 120°.
- ☐ Remove and install compression rings with piston ring pliers.
- ☐ “TOP” faces towards piston crown.
- ☐ Check ring gap ⇒ [page 59](#)
- ☐ Check end clearance ⇒ [page 60](#)

5 - Oil scraper rings

- ☐ Carefully remove and install 3-part oil scraper rings by hand.
- ☐ Check ring gap ⇒ [page 59](#)
- ☐ Ring-to-groove clearance not measurable.

6 - Screw

- ☐ Replace after removal
- ☐ Oil threads and contact surface.



- ☐ 30 Nm + 90° further

7 - Connecting rod bearing cap

- ☐ as a result of the connecting rods separated in the cracking process, the cover fits only in one position and only to the relevant connecting rod
- ☐ Mark with cylinder number prior to removal -A-.
- ☐ Fitting position: Marking -B- points to the belt pulley side (mark before removing if marking is missing)

8 - Bearing shell

- ☐ Do not mix up used bearing shells
- ☐ Insert bearing shells centrally.

9 - Pressure relief valve

- ☐ Removing and installing ⇒ [“4.4 Removing and installing oil injection nozzles”, page 61](#)
- ☐ Opening pressure: 0.2 MPa (2.0 bar)
- ☐ 27 Nm

10 - Oil spray jet

- ☐ for piston cooling
- ☐ Removing and installing ⇒ [“4.4 Removing and installing oil injection nozzles”, page 61](#)

11 - Connecting rod

- ☐ always replace as a set only
- ☐ Mark assignment to cylinder -A-.
- ☐ Fitting position: Marking -B- points to the belt pulley side (mark before removing if marking is missing)
- ☐ Guided axially by piston.
- ☐ separate new conrod ⇒ [“4.3 Separating new connecting rod”, page 61](#)

4.2 Inspect piston, piston rings and cylinder bore

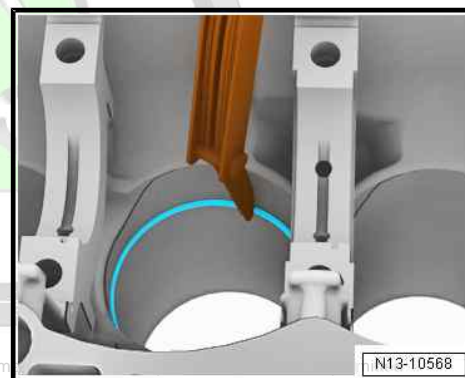
Special tools and workshop equipment required

- ◆ Micrometer 50 - 75 mm - VAS 6070-
- ◆ Cylinder gauge - VAS 6078-
- ◆ Feeler gauge

Checking piston ring gap

- Insert ring at right angles from above down into lower cylinder bore, about 15 mm away from edge of cylinder.

Piston ring dimensions in mm	New	Wear limit
1st compression ring	0.20...0.40	1.0
2nd compression ring	0.40...0.60	1.0
Oil scraper ring	0.25...0.75	no wear indication possible





Checking ring-to-groove clearance

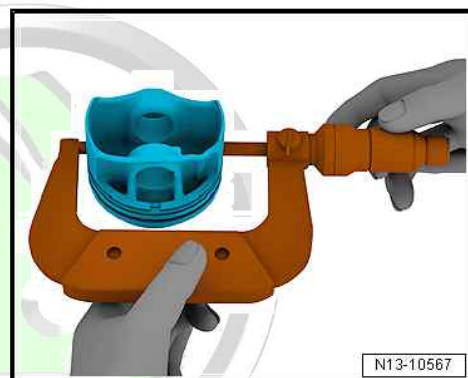
- Clean the annular groove before inspecting.

Piston ring dimensions in mm	New	Wear limit
1st compression ring	0.03...0.09	0.15
2nd compression ring	0.02...0.06	0.15
Oil scraper ring	Not measurable	



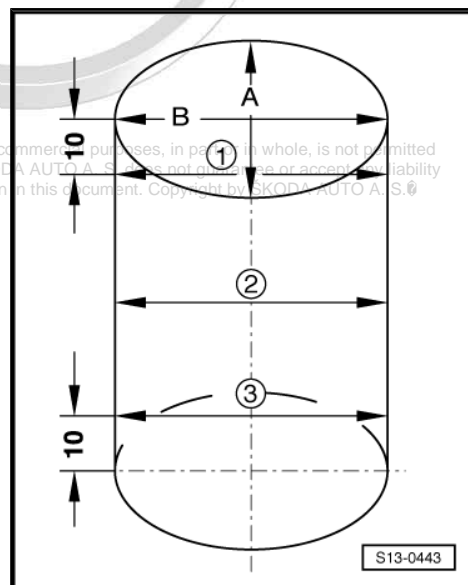
Inspecting piston

- Measure about 7 mm from the lower edge and offset 90° to piston pin axis.
- Deviations from specified dimension: max. 0,04 mm



Checking cylinder bores

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S. ©



Special tools and workshop equipment required

- ◆ Internal precision measuring instrument 50...100 mm
- Measure at three points crosswise in a transverse direction -A- and lengthwise -B-.
- Deviations from specified dimension: max. 0,08 mm



Note

Cylinder bores must not be measured when cylinder block is mounted on engine and gearbox support - VAS 6095- , as measurements may be incorrect.

4.3 Separating new connecting rod

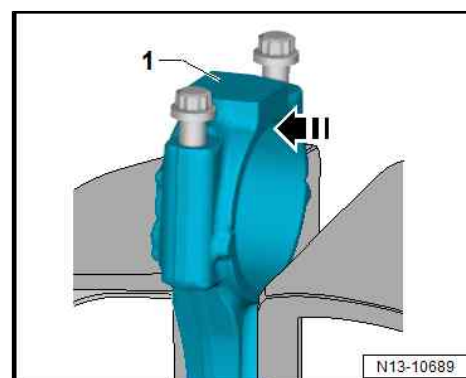
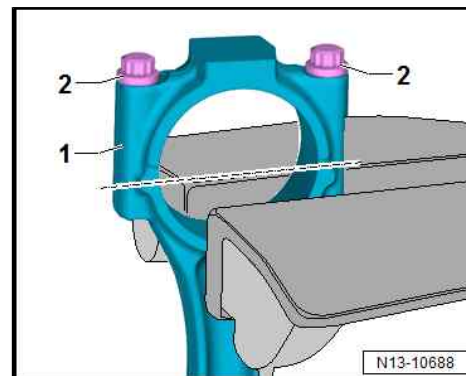
On new conrods it is possible that the target breaking point is not fully broken through. If the connecting rod bearing cap cannot be removed by hand, then proceed as follows:

- Mark the assignment of the connecting rod to the cylinder.
- Gently clamp the conrod in a vice with aluminium protective jaws, as shown in the figure.



Note

- ◆ *Only tension the conrod slightly in order to avoid damage.*
- ◆ *The conrod is clamped below the broken line.*
- Remove screws -2- by approx. 5 turns.
- Carefully knock against the conrod bearing cap with a plastic hammer in -direction of arrow- in order to loosen it -1-.



4.4 Removing and installing oil injection nozzles

Special tools and workshop equipment required

- ◆ Socket - T10545-

Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 66.
- Removing the oil pan.
- Rotate crankshaft on the fixing screw of the vibration damper in the engine's running direction until the associated screw can be reached.



- Unscrew relief valve -1- with socket insert - T10545- .
- Remove oil spray nozzles -2-.

Installing

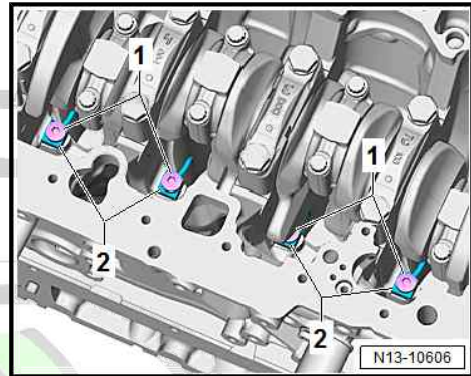
Installation is carried out in the reverse order. When installing, observe the following:



Caution

There is a risk of damage to the oil spray nozzles.

- ◆ *Do not bend oil injection nozzles.*
- ◆ *Check oil injection nozzles after reinstalling the pistons.*
- ◆ *Replace the oil injection nozzles if they are bent.*

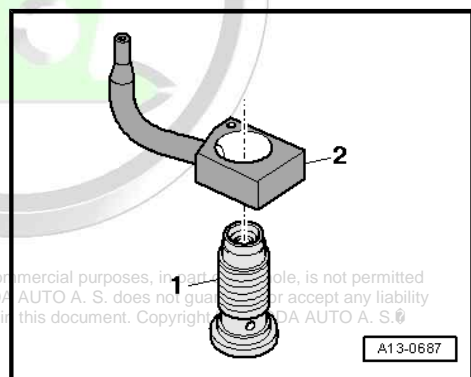


Oil spray nozzle and pressure relief valve

- 1 - Pressure relief valve
- 2 - Oil spray jet
- Installation position: align guide edge of the oil spray nozzle to the cylinder block surface.

Tightening torques

- ◆ Pressure relief valve
⇒ "4.1 Assembly overview - piston and conrod", page 58



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee the accuracy of the information in this document. Copyright © 2017 ŠKODA AUTO A. S.

15 – Cylinder head, valve gear

1 Cylinder head

⇒ [“1.1 Summary of components - cylinder head”, page 63](#)

⇒ [“1.2 Removing and installing cylinder head cover and camshaft”, page 66](#)

⇒ [“1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)”, page 76](#)

⇒ [“1.4 Removing and installing cylinder head \(Octavia II, Yeti\)”, page 81](#)

⇒ [“1.5 Checking compression”, page 84](#)

⇒ [“1.6 Checking the combustion chamber for tightness”, page 85](#)

1.1 Summary of components - cylinder head

Testing compression pressure

⇒ [“1.5 Checking compression”, page 84](#) .



Note

- ◆ *When installing a replacement cylinder head, all the contact surfaces between the hydraulic balancing elements, the cam followers and the cam tracks must be oiled before installing the cylinder head cover.*
- ◆ *Do not remove the plastic bases supplied as a protection for the open valves until just before fitting on the cylinder head.*
- ◆ *Before assembly moisten all bearing points and contact surfaces with oil.*
- ◆ *Removing and installing intake manifold*
⇒ [“2.4 Removing and installing intake manifold”, page 270](#) .



1 - Screw

- ☐ 20 Nm

2 - High pressure pump

- ☐ for fuel supply
- ☐ with fuel pressure regulating valve - N276-
- ☐ Removing and installing
⇒ ["4.1 Summary of components - high pressure pump"](#), page 276

3 - Screw

- ☐ 10 Nm

4 - Hall sender - G40-

- ☐ with O-ring
- ☐ replace the O-ring if it is damaged

5 - Screw

- ☐ 20 Nm

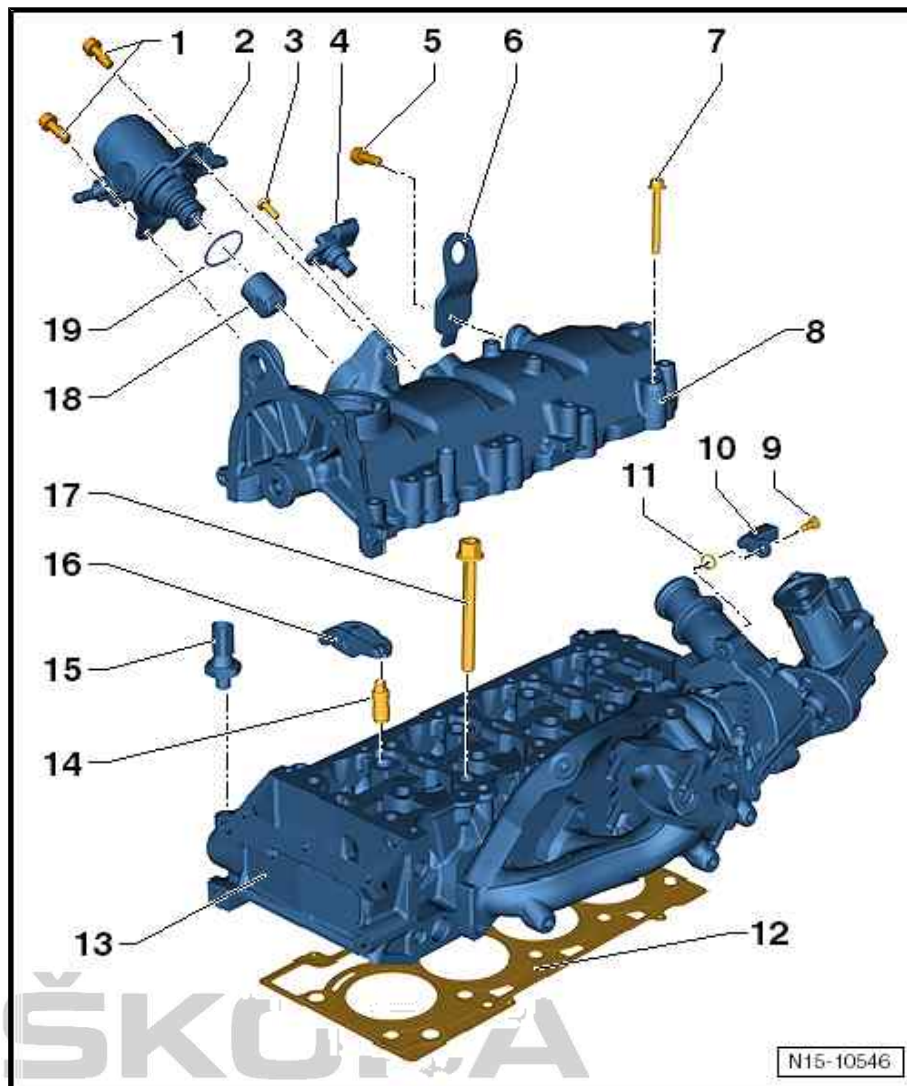
6 - Shackle

7 - Screw

- ☐ Replace after removal
- ☐ Tightening sequence
⇒ ["1.2 Removing and installing cylinder head cover and camshaft"](#), page 66
- ☐ 8 Nm + 90° further

8 - Cylinder head cover

- ☐ Removing and installing
⇒ ["1.2 Removing and installing cylinder head cover and camshaft"](#), page 66



Note

- ◆ On vehicles as of production date 06.2011, the cylinder head cover on the cylinder head is sealed with a coated metal gasket. The cylinder head cover was fitted with a firm gasket.
- ◆ Replace the gasket when carrying out repairs.
- ◆ The cylinder head covers which are sealed with sealant 189 500 A1 and D 154 103 A1 must be additionally sealed with these sealants.

9 - Screw

- ☐ 10 Nm

10 - Coolant temperature sender - G62-

- ☐ before removing, reduce pressure in cooling system

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

11 - O-ring

- ☐ Replace after removal

12 - Cylinder head gasket

- ☐ Replace after removal
- ☐ metal gasket

13 - Cylinder head

- ☐ removing and installing:
- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)", page 76](#)
- ◆ Octavia II, Yeti ⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)", page 81](#)
 - ☐ check for distortion ⇒ [page 65](#)
 - ☐ Sealing surfaces must be free of oil and grease

14 - Hydraulic supporting element

- ☐ Do not interchange
- ☐ with hydraulic valve clearance compensation
- ☐ oil contact surfaces

15 - Oil pressure switch - F1-

- ☐ Check ⇒ ["1.9 Testing oil pressure and oil pressure switch F1 ", page 138](#)
- ☐ with captive seal, replace with oil pressure switch after unscrewing
- ☐ 20 Nm

16 - Roller rocker finger

- ☐ inspect roller bearings for smooth operation
- ☐ oil contact surfaces
- ☐ When installing, secure to supporting element using securing clip.

17 - Cylinder head screw

- ☐ Replace after removal
- ☐ Follow installation instructions and sequence when loosening and tightening:
- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)", page 76](#)
- ◆ Octavia II, Yeti ⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)", page 81](#)

18 - Roller tappet

- ☐ Lightly moisten the contact surface with engine oil

19 - O-ring

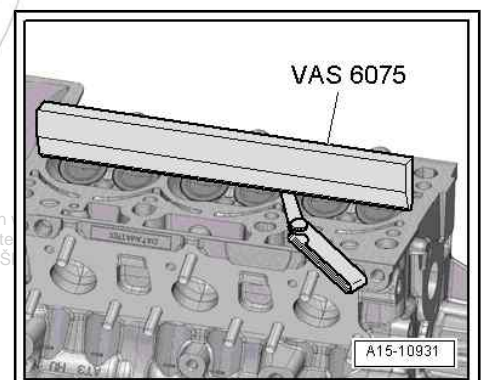
- ☐ Replace after removal
- ☐ moisten with oil before inserting

Checking cylinder head for distortion

Check with straightedge 500 mm , e. g. -VAS 6075- and feeler gauge.

- Max. permissible distortion: 0,05 mm

Protected by copyright. Copying for private or commercial purposes, in part or in full, is prohibited unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee the correctness of information in this document. Copyright by ŠKODA AUTO A. S.





1.2 Removing and installing cylinder head cover and camshaft

⇒ ["1.2.1 Remove cylinder head cover", page 66](#)

⇒ ["1.2.2 Removing and installing camshaft", page 70](#)

⇒ ["1.2.3 Install cylinder head cover", page 72](#)



Note

The camshaft is located in the cylinder head cover.

Special tools and workshop equipment required

- ◆ Fixing bolts - T10414-
- ◆ Locating screw - T10340-
- ◆ Counterholder - T10172 -
- ◆ Sealant - D 154 103 A1- (cylinder head cover/cylinder head)
- ◆ Sealant - D 189 500 A1- (cylinder head cover/cylinder head)
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves
- ◆ Screw M6x70 (2x) : adapt the screws by sawing off the heads

without the written consent of SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1.2.1 Remove cylinder head cover

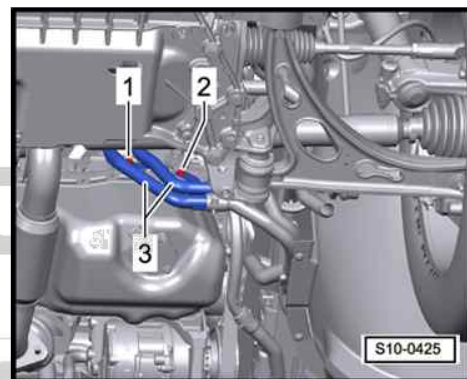


Note

- ◆ *On vehicles as of production date 06.2011, the cylinder head cover on the cylinder head is sealed with a coated metal gasket. The cylinder head cover was fitted with a firm gasket.*
- ◆ *Replace the gasket when carrying out repairs.*
- ◆ *The cylinder head covers which are sealed with sealant 189 500 A1 and D 154 103 A1 must be additionally sealed with these sealants.*
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27 .
- Drain coolant ⇒ ["1.3 Draining and filling coolant", page 142](#) .
- Remove top timing case
⇒ ["2.5 Removing and installing the top timing case", page 105](#) .

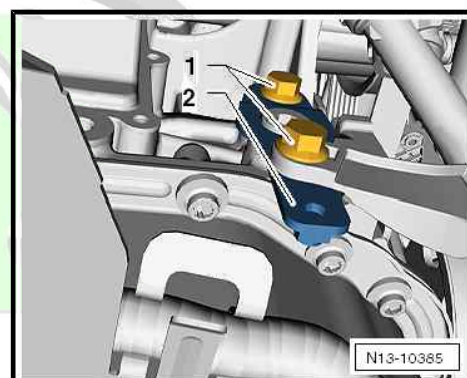
Vehicles with auxiliary heating

- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.



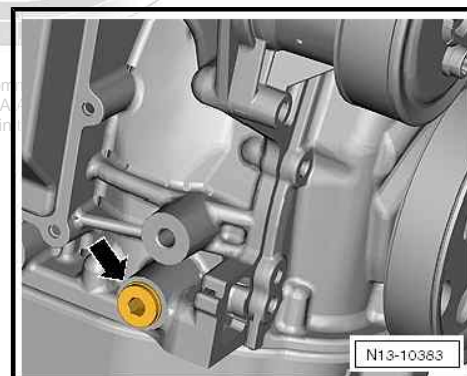
Continued for all vehicles

- Release fixing screws -1- and remove bracket for coolant pipe -2-.



- Release screw plug -arrow- at cylinder block.

Protected by copyright. Copying for private or commercial use without the written permission of ŠKODA AUTO A. S. is prohibited. ŠKODA AUTO A. S. is not responsible for the correctness of information in this manual.



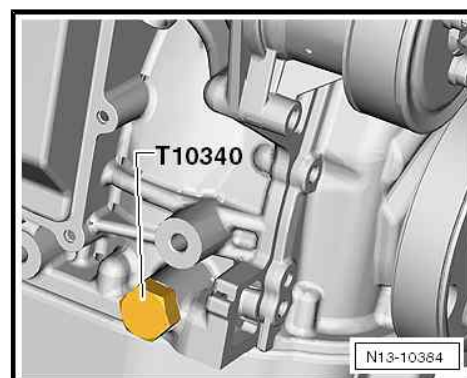
- Turn the fixing screw - T10340- up to the stop in the cylinder block.



Caution

If the fixing screw - T10340 - cannot be screwed in up to the stop, the crankshaft is not in the correct position!

In this case proceed as described below.

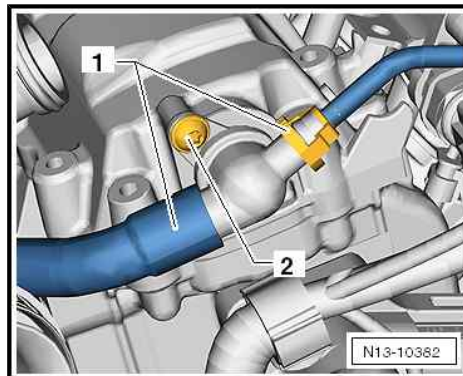


- Unscrew locking pin.
- Turn the crankshaft 90° in the running direction of the engine.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.
- Turn crankshaft up to the stop in direction of rotation of engine.

The crankshaft is locked in direction of rotation of engine with the locating screw - T10340- .



- Separate the hoses -1- from the non-return valve.
- Release the fixing screw -2- and pull the non-return valve out of the cylinder head cover.



- Insert the locking bolt - T10414- into the cylinder head cover up to the stop.
- Tighten fixing screw -1- by hand.

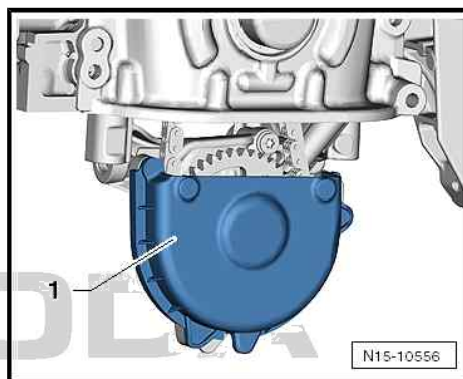
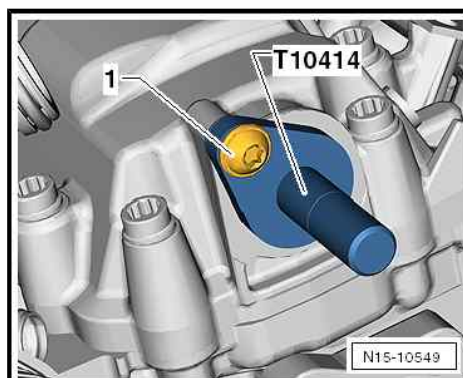
For vehicles manufactured up to 12.2009



Note

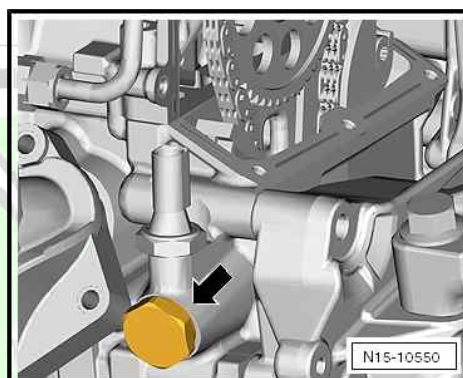
On these vehicles, the timing chain can slip off the crankshaft gear when installing.

- Removing the oil pan
⇒ ["1.2 Removing and installing oil pan", page 125](#) .
- Pull off the cover -1- from the oil pump.

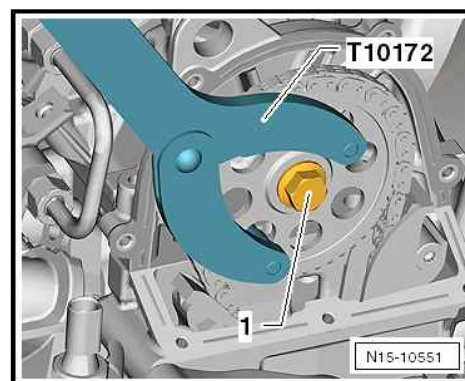


Continued for all vehicles

- Release chain tensioner -arrow- for timing chain.



- Hold the camshaft chain sprocket with the counterholder - T10172- and slacken the fixing screw -1- of the camshaft sprocket.
- Remove the camshaft chain sprocket together with the fixing screw.



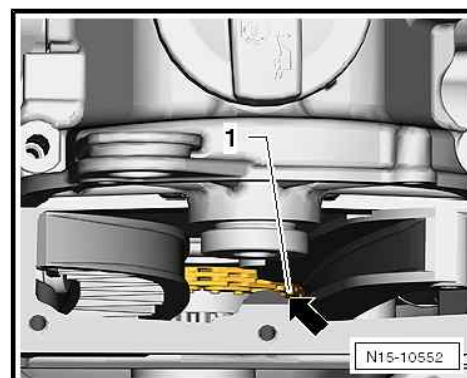
- Place the chain sprocket -1- down on the integrated peg -arrow- in the timing case.



Note

The integrated peg on the inner side of the timing case prevents the chain sprocket from falling down.

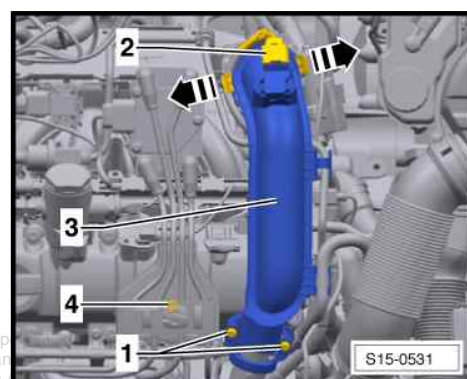
- Detach hose to air filter from cylinder head cover.



For vehicles Fabia II, Roomster, Rapid NH

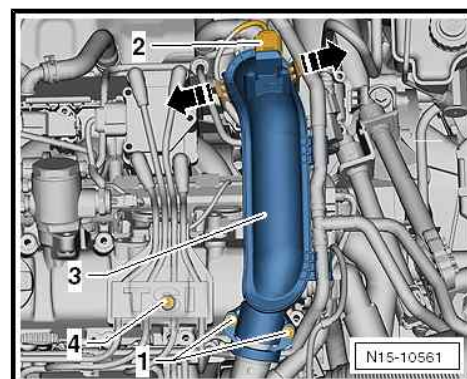
- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338- and then from the exhaust gas turbocharger.
- Remove the cover for the ignition leads and release the fixing screw -4-.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



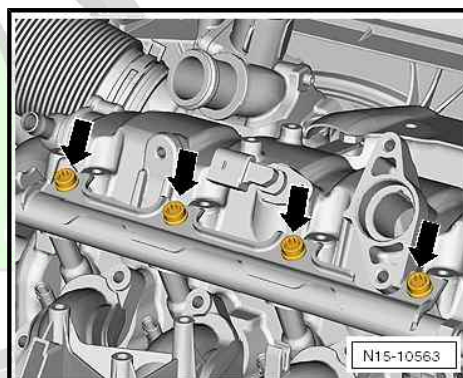
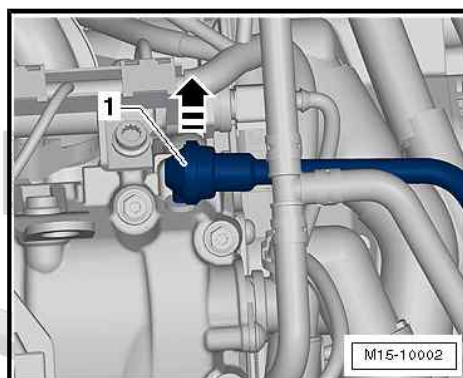
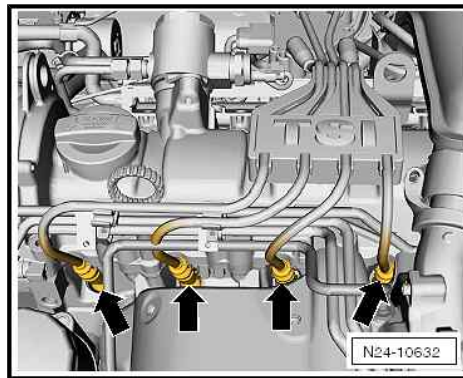
For the vehicles Octavia II, Yeti

- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.
- Remove the cover for the ignition leads and release the fixing screw -4-.



Continued for all vehicles

- Disconnect all the spark plug connectors -arrows- using the extractor - T10112 A- from the spark plugs and lay the ignition cables to the rear.
- Detach the non-return valve -1- from the cylinder head cover towards the rear in -direction of arrow-.
- Remove high pressure pump
⇒ [“4.2 Removing and installing the high pressure pump”, page 277](#) .
- Unplug connectors from the fuel injection valves.
- Release the screws -arrows- and disconnect the fuel distributor from the injection valves.
- Remove exhaust turbocharger
⇒ [“1.2 Removing and installing exhaust gas turbocharger”, page 248](#) .
- Disconnect the plug from the hall encoder - G40- .
- Pull out oil dipstick.
- Slacken the fixing screws of the cylinder head cover crosswise from outside to inside and unscrew.
- Carefully remove the cylinder head cover.



Note

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®

On vehicles with sealant, ensure no dirt and sealant residues get into the cylinder head.

Tightening torques

Component	Tightening torque
Locating screw - T10340-	30 Nm

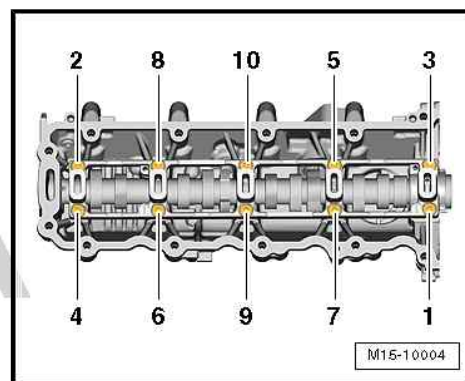
1.2.2 Removing and installing camshaft

Removing

- Remove fixing bolt - T10414- .
- Place the cylinder head cover on the work bench as shown.

- Release the fixing screws for the bearing frame in the specified order -1- to -10-.
- Remove bearing frame.

ŠKODA



- Remove the camshaft -1- out of the cylinder head cover -2-.

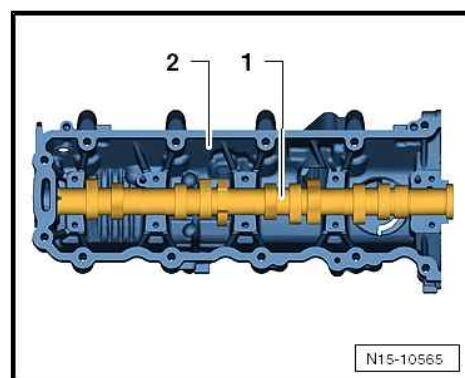
Installing



Note

Before fitting, moisten the camshaft and the camshaft bearings lightly with engine oil.

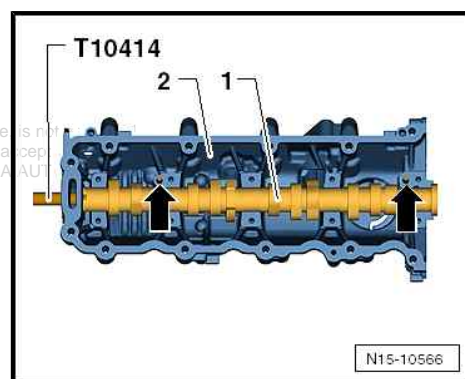
- Place the camshaft -1- in the cylinder head cover -2-.



- Insert the fixing bolt - T10414 - into the nuts of the camshaft and tighten the screw by hand.

- Position the bearing frame onto the bearing surfaces of the camshaft.

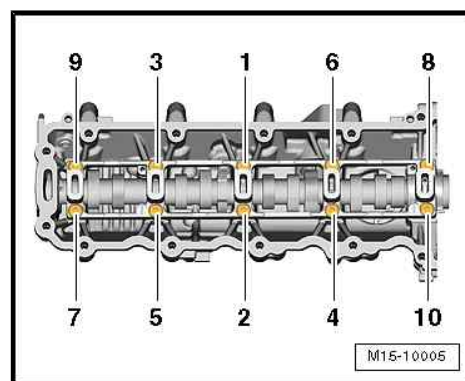
The bearing frame is put into the correct position by means of the centering pins -arrows-.



- Tighten the fixing screws in the specified order -1- to -10-.

Tightening torques

- ◆ Screws of the bearing frame
⇒ ["3.1 Assembly overview - valve gear", page 111](#) .





1.2.3 Install cylinder head cover



Note

- ◆ *On vehicles as of production date 06.2011, the cylinder head cover on the cylinder head is sealed with a coated metal gasket. The cylinder head cover was fitted with a firm gasket.*
- ◆ *Replace the gasket when carrying out repairs.*
- ◆ *The cylinder head covers which are sealed with sealant 189 500 A1 and D 154 103 A1 must be additionally sealed with these sealants.*



Caution

Before installing the cylinder head cover, screw in the pin screws (M6 x 70) at the cylinder head.

The pin screws guide the cylinder head cover and prevent the roller rocker arms sliding off from the balancing elements.

Condition

- The pistons must not be positioned at top dead centre.

For vehicles with sealant



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Remove residual sealant from the sealing surfaces at the cylinder head cover and at the cylinder head with chemical sealant remover.
- Degrease the sealing surfaces.
- Screw in two pin screws (M6 x 70) -1- into the cylinder head before fitting on the cylinder head cover.



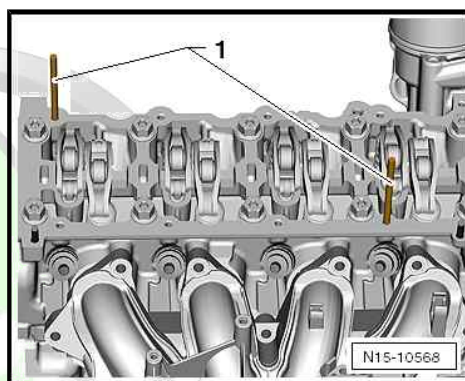
Caution

The cylinder head cover is sealed with 2 different sealants!

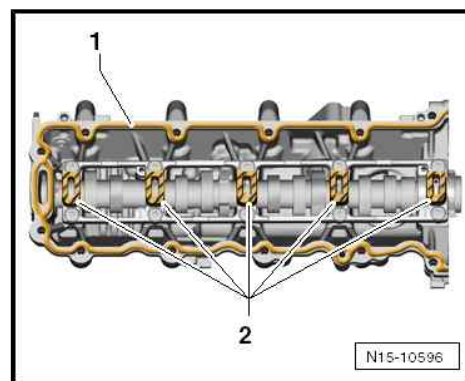


Note

The sealant must not be applied too thickly, as otherwise excess sealant may penetrate into the oil bores and possibly cause engine damage.



- Apply sealant - D 189 500 A1 - on the sealing surface -1-.
- The sealant bead must be 2...3 mm thick and must run past the area around the bolt holes on the inside.
- Apply a thin layer of sealant - D 154 103 A1 - evenly to the gridded sealing surfaces -2-.



For vehicles with coated metal gasket

- Screw in two pin screws (M6 x 70) -1- into the cylinder head before fitting on the cylinder head cover.



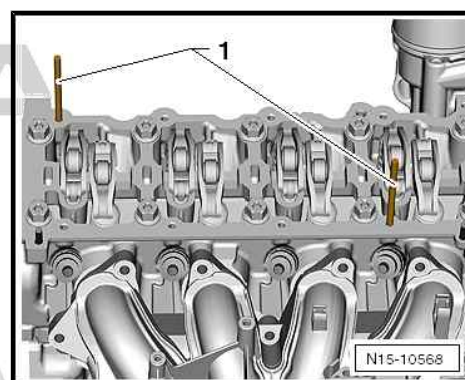
Note

- ◆ Do not remove new cylinder head gasket from packaging until it is ready to be fitted.
- ◆ Treat the new gasket with the utmost care. Damage will cause leakage.

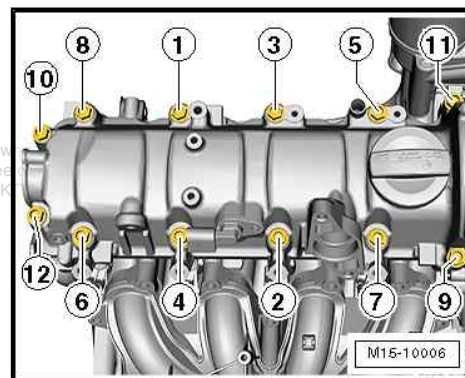
- Fit new gasket for cylinder head cover onto cylinder head.

Continued for all vehicles

- Check if the roller rocker arms rest on the balancing elements.
- Carefully fit the cylinder head cover over the pin screws and position the dowel pins onto the cylinder head.
- Tighten the new fixing screws of the cylinder head cover in the specified order -1- to -12-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



- Remove excess sealant in the area of the -arrows-.

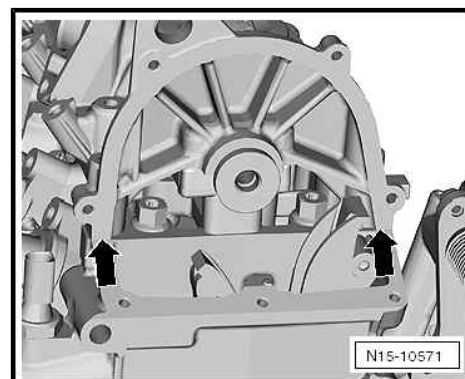


Caution

The sealant for the cylinder head cover must absolutely be removed in the area of the -arrows-.

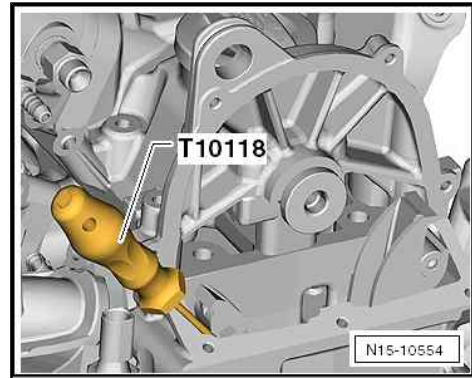
In order to avoid leakage, the sealant for the cylinder head cover and the sealant for the top timing case must not mix.

- Turn crankshaft up to the stop in direction of rotation of engine.



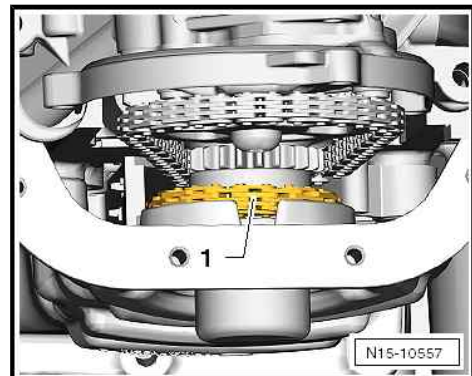


- Lift up the timing chain with the assembly device - T10118- .



For vehicles manufactured as of 12.2009

- Check the correct position of the timing chain -1- on the crankshaft gear from below.



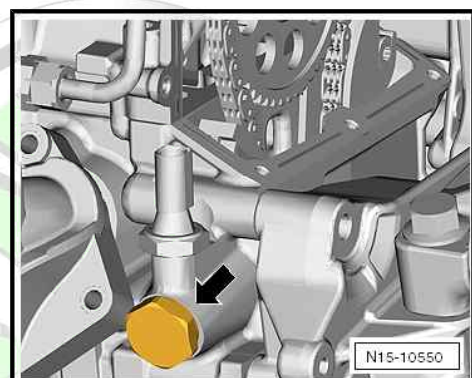
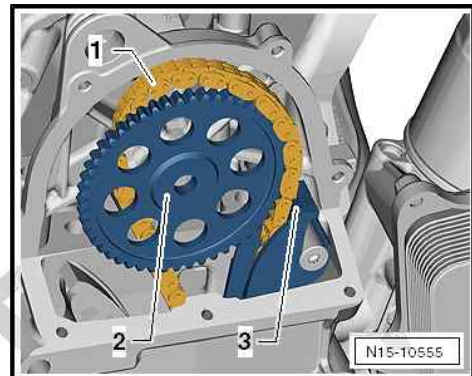
Continued for all vehicles

- Place the timing chain -1- onto the chain sprocket -2-.



Note

- ♦ *The timing chain must rest in the area of the sliding rail -3- and be slightly tensioned.*
- ♦ *The timing chain must run through the middle of the sliding rail -3-.*
- Install fixing screw for camshaft chain sprocket and tighten by hand.
- Tighten the chain tensioner -arrow-.



- Hold the camshaft chain sprocket with the counterholder - T10172- and tighten the fixing screw -1- of the camshaft chain sprocket to 50 Nm.



Note

The fixing screw is only turned a further 90° after checking the timing at the end of the work procedure.

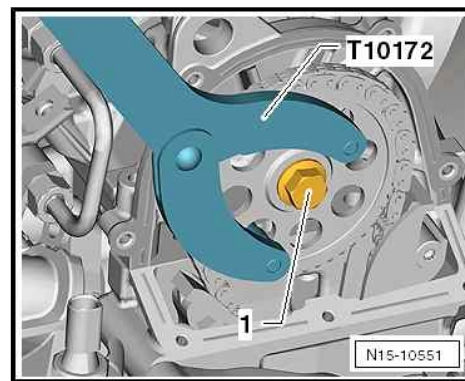
- Remove the fixing bolt - T10414- from the camshaft.
- Unscrew the locating screw - T10340- from the cylinder block.
- Turn the crankshaft in direction of rotation of engine by 2 turns.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.
- Turn crankshaft up to the stop in direction of rotation of engine.

The timing is O.K., if the fixing bolt - T10414- can be inserted in the camshaft.

If the timing is not O.K.:

- Repeat the setting of the timing
⇒ ["2.3 Setting the timing", page 93](#) .

If timing is o.k.:



ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Hold the camshaft chain sprocket with t counterholder - T10172- and torque the fixing screw -1- a further 90°.
- Remove fixing bolt - T10414- and fixing screw - T10340- .
- Install top timing case
⇒ ["2.5 Removing and installing the top timing case", page 105](#) .
- Install exhaust turbocharger
⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#) .

For vehicles manufactured as of 12.2009

- Installing the oil pan
⇒ ["1.2 Removing and installing oil pan", page 125](#) .

Continued for all vehicles

- Install vibration damper
⇒ ["1.3 Removing and installing vibration damper", page 38](#) .
- Install high pressure pump
⇒ ["4.2 Removing and installing the high pressure pump", page 277](#) .

Further installation occurs in reverse order.

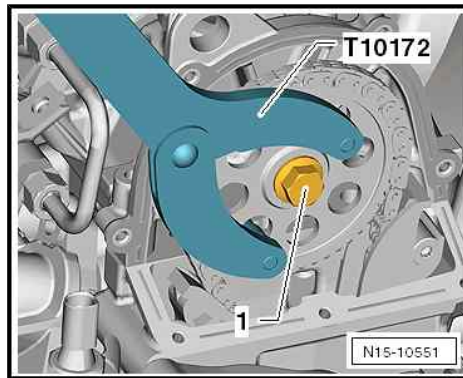
For vehicles manufactured as of 06.2011

- Erase the initialisation values and adapt the engine control unit
- J623- ⇒ Vehicle diagnostic tester.

Tightening torques

- ◆ Screw for camshaft chain sprocket
⇒ ["3.1 Assembly overview - valve gear", page 111](#) .
- ◆ Chain tensioner
⇒ ["2.1 Summary of components - timing chain", page 87](#) .
- ◆ Screws for cylinder head cover
⇒ ["1.1 Summary of components - cylinder head", page 63](#) .

Component	Tightening torque
M6 screw for bracket/coolant pipe	10 Nm
M8 screw for bracket/coolant pipe	20 Nm
Screw for non-return valve	8 Nm
Screw plug for bore in the cylinder block	30 Nm
Locating screw - T10340-	30 Nm



1.3 Removing and installing cylinder head (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Mounting bracket - T10358-
- ◆ Hook - MP9-200/10-
- ◆ Sealant remover Gasket Stripper (stock code GST, stock item No. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves
- ◆ For Fabia II, Roomster vehicles: supporting device - MP9-200 (10-222A)-

- ◆ For Fabia II, Roomster vehicles: Tension belt - T10038-
- ◆ For Rapid NH vehicles: supporting device - T30099-
- ◆ For Rapid NH vehicles: bracket - MP9-200/3-
- ◆ For Rapid NH vehicles: supporting plate - T30099/1-

Removing

Requirements

- Engine temperature should not exceed 35°C, because the cylinder head could be twisted when slackening the screws.
- No piston must be standing at TDC.

Observe the safety instructions

⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe rules for cleanliness

⇒ [“3.1 Rules of cleanliness”, page 7](#) .



WARNING

Reduce pressure in the high pressure system
⇒ [“2.3 Reducing pressure in the high pressure system”, page 4](#) .

- Drain coolant ⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Remove coolant regulator housing from cylinder head.
- Remove top timing case
⇒ [“2.5 Removing and installing the top timing case”, page 105](#) .
- Remove bottom timing case
⇒ [“2.6 Removing and installing the bottom timing case”, page 108](#) .
- Remove bracket for top auxiliary units
⇒ [“2.4 Removing and installing bracket for top auxiliary units”, page 53](#) .
- Remove exhaust turbocharger
⇒ [“1.2 Removing and installing exhaust gas turbocharger”, page 248](#) .
- Removing the intake manifold
⇒ [“2.4 Removing and installing intake manifold”, page 270](#) .

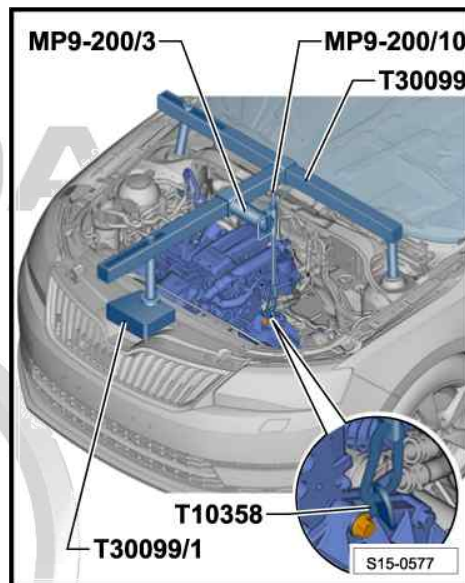
For vehicles Rapid NH

- Remove the plenum chamber cover ⇒ Body Work; Rep. gr. 66 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



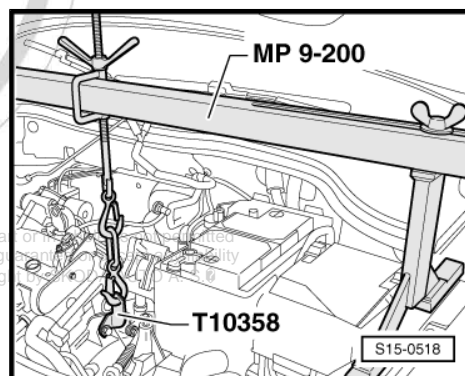
- Position supporting device - T30099- with bracket - MP9-200/3- .
- Unscrew the fixing screw for the gearbox and screw down the bracket - T10358- .
- Support hook - MP9-200/10- on bracket - T10358- .
- Slightly pre-tension engine/gearbox assembly with the hook - MP9-200/10- , do not raise.



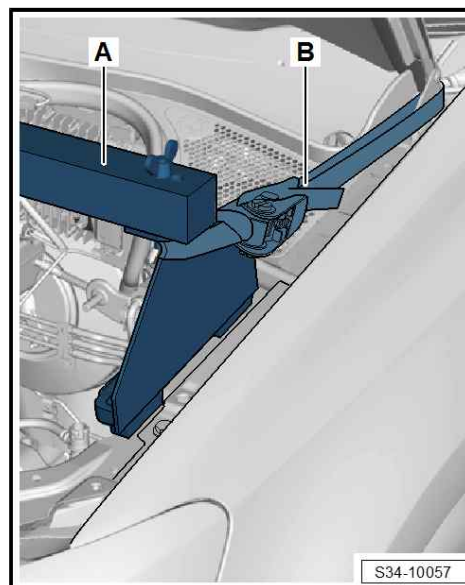
For Fabia II, Roomster vehicles

- Fit supporting device - MP9-200 (10-222A)- onto the vehicle.
- Unscrew the fixing screw for the gearbox and screw down the bracket - T10358- . (The figure shows the version with the 1.4 ltr./90 kW TSI Engine; the engine mount is identical).
- Support hook - MP9-200/10- on bracket - T10358- .

Protected by copyright. Copying for private or commercial purposes, in part or in full, without the written permission of ŠKODA AUTO A. S. is prohibited. ŠKODA AUTO A. S. does not guarantee the accuracy of the information in this document. Copying for other purposes without the written permission of ŠKODA AUTO A. S. is prohibited.



- Secure support bracket - MP9-200 (10-222A)- -A- to the bonnet hinges on both sides with the aid of the tensioning strap - T10038- -B-.
- Slightly pre-tension engine/gearbox assembly with the hook - MP9-200/10- , do not raise.



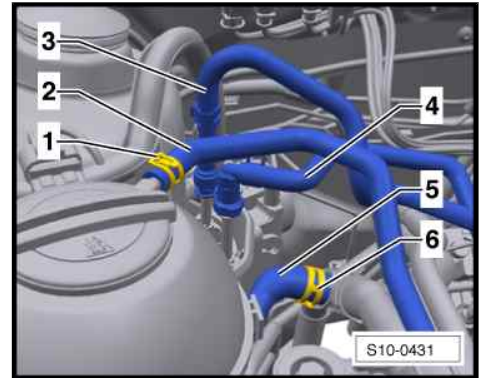
Continued for all vehicles

- Pull out the fuel line -3- and -4- and catch the fuel which flows out with a cleaning cloth
⇒ [“3.1 Separating push-on couplings”, page 232](#) .

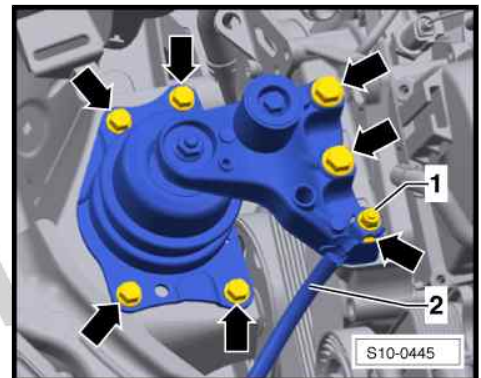


WARNING

Fuel feed line is pressurised. Wear safety goggles and safety gloves, in order to avoid injuries and skin contact. Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.



- Unscrew nut -1- and disconnect earth lead -2- from engine mount.
- Unscrew screws -arrows- and remove engine mount.
- Remove cylinder head cover
⇒ [“1.2 Removing and installing cylinder head cover and camshaft”, page 66](#) .
- Remove the tensioning rail and the sliding rail of the timing chain.
- Remove the roller rocker arm together with the supporting elements and lay aside on a clean surface.
- Ensure that the roller rocker arms and the supporting elements are not mixed up.
- Release the cylinder head bolts in the specified sequence and remove.
- Carefully remove the cylinder head.

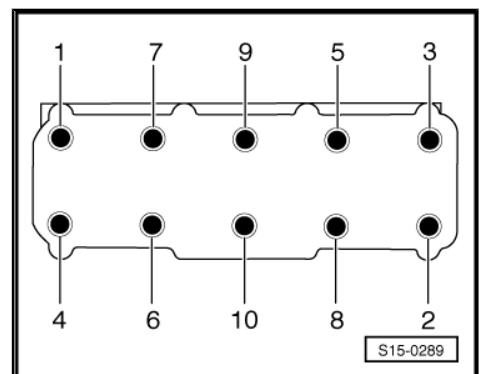


Installing



Note

- ◆ As of 20.10.2010, the non-return valve which was installed in the cylinder block at the top and was only accessible after removing the cylinder head, is no longer fitted.
- ◆ As of 21.10.2010, the non-return valve is installed in the cylinder block from the oil pan side.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



Tightening torque of non-return valve -arrow-
⇒ ["1.5 Removing and installing non-return valve", page 132](#) .

Condition

- No piston must be standing at TDC.



Note

- ◆ Do not remove new cylinder head gasket from packaging until it is ready to be fitted.
- ◆ Treat the new gasket with the utmost care. Damage will cause leakage.
- ◆ There must be no oil or coolant in the blind holes for the cylinder head screws in the cylinder block.
- Stuff clean cloth into the cylinders to avoid any dirt getting in between cylinder wall and piston.



WARNING

Wear protective gloves when working with sealant and grease remover!

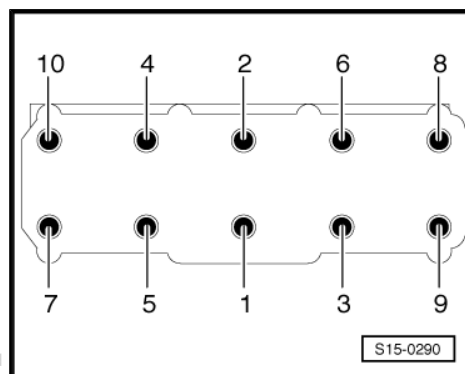
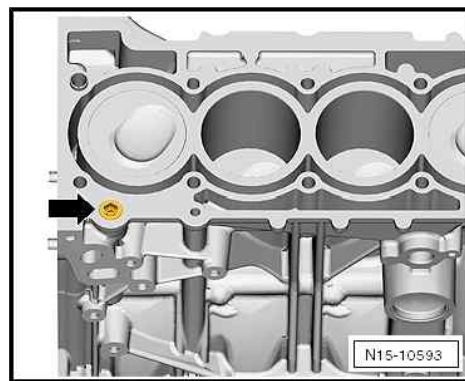
- Make sure that when cleaning the cylinder head and cylinder block no foreign particles can get into the cylinder or into the oil and coolant galleries.
- Carefully remove old sealant residue from the cylinder head and cylinder block using a chemical sealant remover.
- Position piston of cylinder 1 to top dead centre and slightly turn the crankshaft anticlockwise again.
- Position the new cylinder heads. The legend (part number) must be legible.
- Insert the cylinder head. Pay attention to the centering pins in the cylinder block.
- Insert new cylinder head bolts and tighten by hand.
- Tighten cylinder head bolts in the tightening order shown as follows:
 - ◆ Tighten all screws to 40 Nm.
 - ◆ Then, torque all bolts further to 90° with a rigid wrench.
 - ◆ Then turn all bolts through a further 90°.
- Insert the hydraulic supporting elements in the cylinder head and position the relevant roller rocker arm on the valve stem ends or supporting elements.
- Install cylinder head cover

⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#) .

- Adjusting valve timing ⇒ ["2.3 Setting the timing", page 93](#) .

Further installation occurs in reverse order.

- Top up and bleed cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .



1.4 Removing and installing cylinder head (Octavia II, Yeti)

Special tools and workshop equipment required

- ◆ Supporting device - T30099-
- ◆ Supporting plate - T30099/1-
- ◆ Hook - MP9-200/10-
- ◆ Mounting bracket - T10358-
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves

Removing

Requirements

- Engine temperature should not exceed 35°C, because the cylinder head could be twisted when slackening the screws.
- The pistons must not be in TDC.

Observe the safety instructions

⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) .

Observe rules for cleanliness

⇒ ["3.1 Rules of cleanliness", page 7](#) .



WARNING

Reduce pressure in the high pressure system
⇒ ["2.3 Reducing pressure in the high pressure system", page 4](#) .

- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. ŠKODA AUTO A. S. does not guarantee or accept any liability for the content. Copyright by ŠKODA AUTO A. S.
- Drain the coolant from the cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .
 - Remove coolant regulator housing from cylinder head.
 - Remove top timing case
⇒ ["2.5 Removing and installing the top timing case", page 105](#) .
 - Remove bottom timing case
⇒ ["2.6 Removing and installing the bottom timing case", page 108](#) .
 - Remove bracket for top auxiliary units
⇒ ["2.4 Removing and installing bracket for top auxiliary units", page 53](#) .
 - Remove exhaust turbocharger
⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#) .
 - Removing the intake manifold
⇒ ["2.4 Removing and installing intake manifold", page 270](#) .
 - Remove the plenum chamber cover ⇒ Body Work; Rep. gr. 66 .
 - Fit supporting device - T30099- .



- Unscrew the fixing screw for the gearbox and screw down the bracket - T10358- as shown. (The figure shows the version with the 1.4 ltr./90 kW TSI Engine; the hanger is identical).
- Support hook - MP9-200/10- on bracket - T10358- .
- Slightly pre-tension engine/gearbox assembly with the hook - MP9-200/10- , do not raise.

ŠKODA

- Separate fuel feed line -1- and the line to activated charcoal filter -2-. To do so press the release buttons.



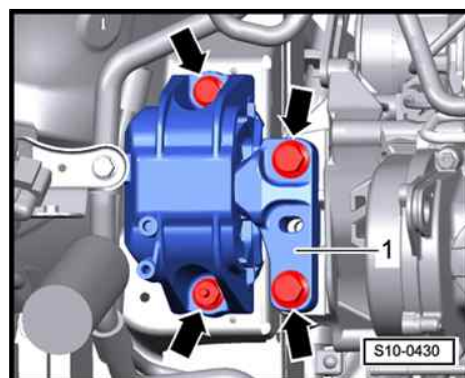
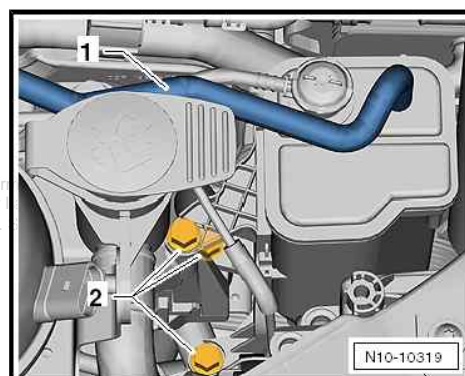
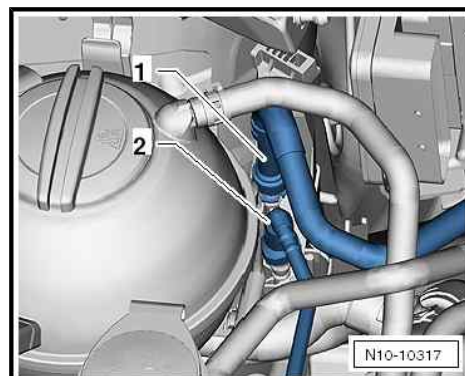
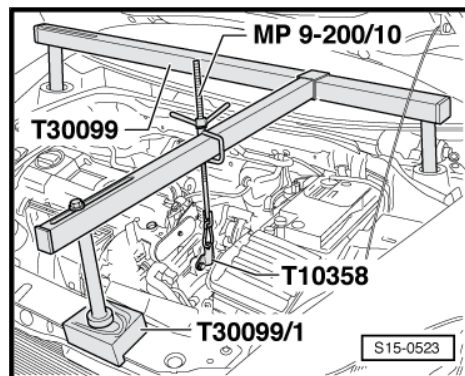
WARNING

Fuel feed line is pressurised. Wear safety goggles and safety gloves, in order to avoid injuries and skin contact. Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

- Release the fixing screws -2- and remove the activated charcoal filter upwards.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

- Unscrew screws -arrows- and remove engine mount.
- Remove cylinder head cover
⇒ [“1.2 Removing and installing cylinder head cover and camshaft”, page 66](#) .
- Remove the tensioning rail and the sliding rail of the timing chain.
- Remove the roller rocker arms together with the supporting elements and lay aside on a clean surface.
- Ensure that the roller rocker arms and the supporting elements are not mixed up.



- Release the cylinder head bolts in the specified sequence and remove.
- Carefully remove the cylinder head.

Installing



Note

- ◆ As of 20.10.2010, the non-return valve which was installed in the cylinder block at the top and was only accessible after removing the cylinder head, is no longer fitted.
- ◆ As of 21.10.2010, the non-return valve is installed in the cylinder block from the oil pan side.

Tightening torque of non-return valve -arrow-

⇒ ["1.5 Removing and installing non-return valve", page 132](#) .

Condition

- The pistons must not be at TDC.



Note

- ◆ Do not remove new cylinder head gasket from packaging until it is ready to be fitted.
- ◆ Treat the new gasket with the utmost care. Damage will cause leakage.
- ◆ There must be no oil or coolant in the blind holes for the cylinder head screws in the cylinder block.

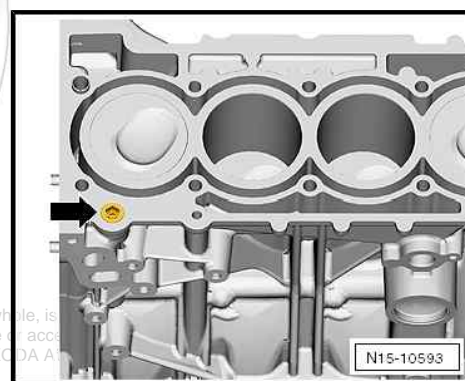
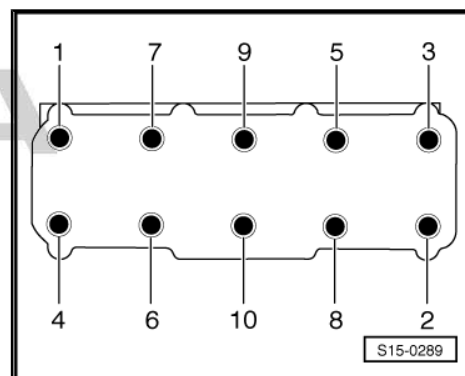
- Stuff clean cloth into the cylinders to avoid any dirt getting in between cylinder wall and piston.



WARNING

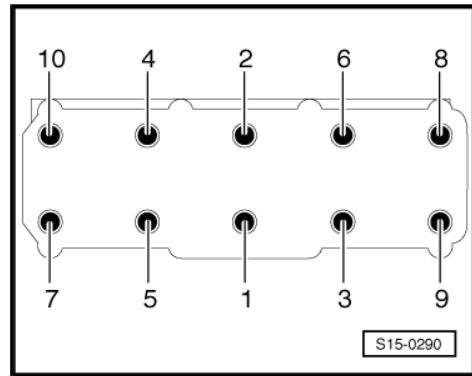
Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Make sure that when cleaning the cylinder head and cylinder block no foreign particles can get into the cylinder or into the oil and coolant galleries.
- Carefully remove old sealant residue from the cylinder head and cylinder block using a chemical sealant remover.
- Position piston of cylinder 1 to top dead centre and slightly turn the crankshaft anticlockwise again.
- Position the new cylinder heads. The legend (part number) must be legible.
- Insert the cylinder head. Pay attention to the centering pins in the cylinder block.
- Insert new cylinder head bolts and tighten by hand.





- Tighten cylinder head bolts in the tightening order shown as follows:
- ◆ Tighten all bolts initially to 40 Nm.
- ◆ Then, torque all bolts further to 90° with a rigid wrench.
- ◆ Then turn all bolts through a further 90°.
- Insert the hydraulic supporting elements in the cylinder head and position the relevant roller rocker arm on the valve stem ends or supporting elements.
- Install cylinder head cover
⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#) .
- Adjusting valve timing ⇒ ["2.3 Setting the timing", page 93](#) .



Further installation occurs in reverse order.

- Top up and bleed cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .

1.5 Checking compression

Special tools and workshop equipment required

- ◆ Spark plug wrench , e.g. -3122 B-
- ◆ Compression tester - V.A.G 1763-
- ◆ Extractor - T10112 A-

Test condition

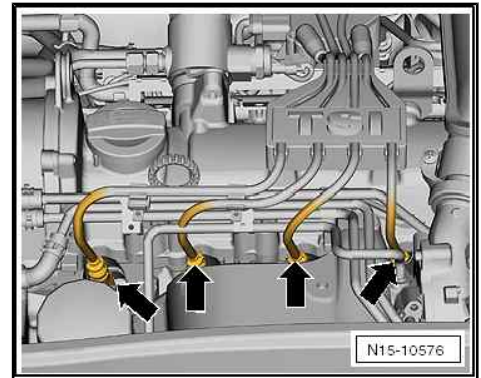
- Engine oil temperature must be at least 30°C.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

Work procedure

- Pull out the spark plug connector -arrows- with the extractor - T10112 A- .
- Unscrew the spark plugs with the spark plug wrench - 3122 B- .
- Open lid of fuse carrier in the engine compartment and unplug the fuse for fuel pump control unit ➔ Current flow diagrams, Electrical fault finding and Fitting locations.
- Check compression pressure using the compression tester - V.A.G 1763- .



Note

Use of tester ➔ Owner's Manual .

- Operate starter until the tester no longer indicates a pressure rise.

Compression readings

Engine new	Wear limit	Difference between cylinders
1...1.5 MPa (10...15 bar)	0.7 MPa (7 bar)	0.3 MPa (3 bar)

If the specified values are not reached, test the combustion chamber for tightness

➔ ["1.6 Checking the combustion chamber for tightness", page 85](#) .

Installation is carried out in the reverse order. When installing, observe the following:

- Install spark plugs, tightening torque
➔ ["1.1 Assembly overview - ignition system", page 310](#) .
- Delete the contents of the event memory for the engine control unit at the end of the work as error messages were stored due to disconnecting the plugs ➔ Vehicle diagnostic tester.

1.6 Checking the combustion chamber for tightness

Special tools and workshop equipment required

- ◆ Pressure hose - MP1-210 (VW 653/3)- (replace sealing ring with a spark plug sealing ring)
- ◆ Extractor - T10112 A-
- ◆ Spark plug wrench , e.g. -3122 B-

Test sequence

- Unscrew the spark plugs with the spark plug wrench - 3122 B- .
- Bring piston of the relevant cylinder to top dead centre (TDC).
- Screw the pressure hose MP 1-210 into the spark plug thread.
- Connect pressure hose to compressed air.
- With the assistance of a second mechanic, lock the screw at the crankshaft on the "TDC" position in order to avoid the displacement of the piston after pressure build-up.



- Build up a pressure of approx. 0.3 MPa (3 bar) in the combustion chamber.
- Determine how the pressure is escaping:
 - 1 - Via the inlet valve(s) - the pressure enters the throttle valve.
 - 2 - Via the outlet valve(s) - the pressure enters the exhaust system.
 - 3 - Via the piston rings - the pressure enters the cylinder block.

ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

2 Chain drive

⇒ [“2.1 Summary of components - timing chain”, page 87](#)

⇒ [“2.2 Checking valve timing”, page 91](#)

⇒ [“2.3 Setting the timing”, page 93](#)

⇒ [“2.4 Removing and installing timing chain and drive chain for oil pump”, page 99](#)

⇒ [“2.5 Removing and installing the top timing case”, page 105](#)

⇒ [“2.6 Removing and installing the bottom timing case”, page 108](#)

2.1 Summary of components - timing chain



Note

◆ *Before assembly, oil all bearing and contact surfaces.*

◆ *If considerable quantities of metal swarf or abrasion is found when carrying out an engine repair, this can be subject to damage to the crankshaft and conrod bearings. In order to avoid consequential damage, after the repair perform the following tasks:*

For private or commercial purposes, in part or in whole, is not permitted
A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability
with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

- Carefully clean the oil galleries.
- Replace oil injection nozzles.
- Replace engine oil cooler.
- Replace oil filter.



1 - Cylinder head with cylinder head cover

- ☐ Removing and installing cylinder head:

- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)"](#), page 76

- ◆ Octavia II, Yeti
⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)"](#), page 81

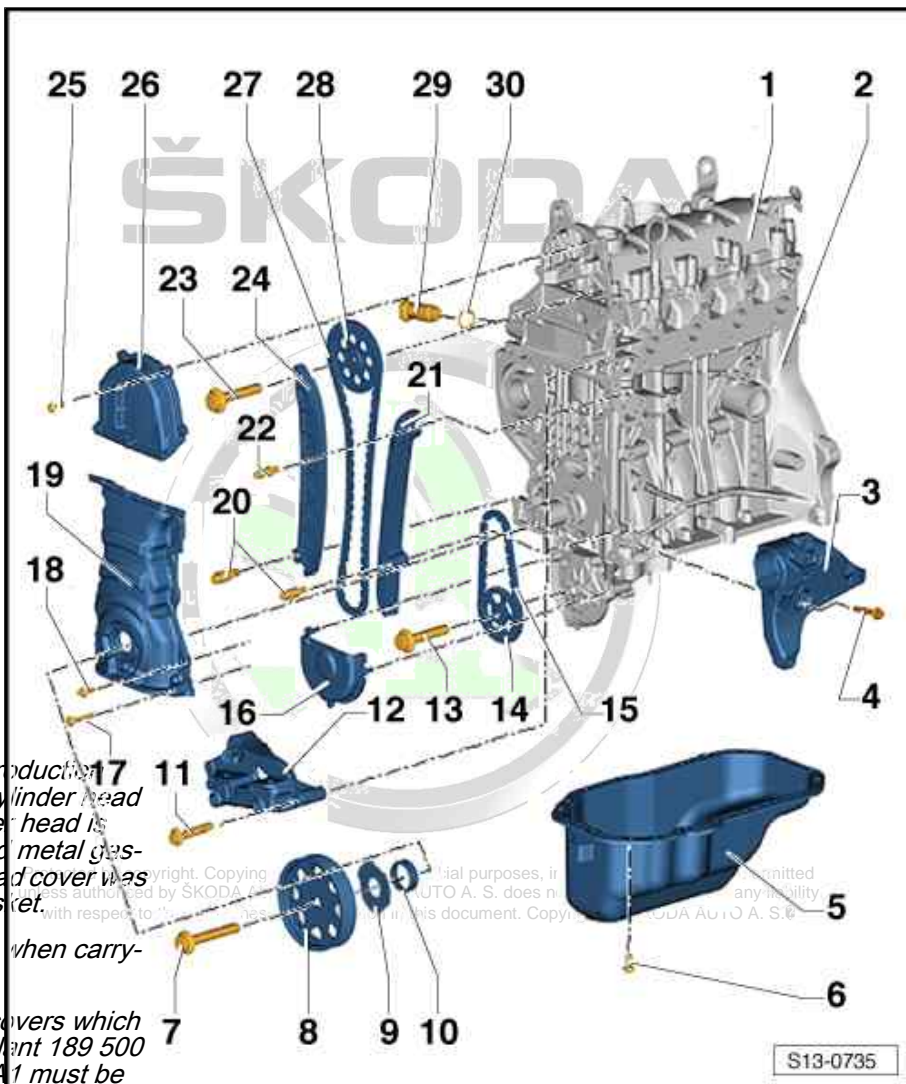
- ☐ Removing and installing cylinder head cover
⇒ ["1.2 Removing and installing cylinder head cover and camshaft"](#), page 66

- ☐ sealing surfaces must not be reworked.



Note

- ◆ On vehicles as of production date 06.2011, the cylinder head cover on the cylinder head is sealed with a coated metal gasket. The cylinder head cover was fitted with a firm gasket.
- ◆ Replace the gasket when carrying out repairs.
- ◆ The cylinder head covers which are sealed with sealant 189 500 A1 and D 154 103 A1 must be additionally sealed with these sealants.



2 - Cylinder block

- ☐ Disassembling and assembling pistons and conrods
⇒ ["4.1 Assembly overview - piston and conrod"](#), page 58



WARNING

The crankshaft must not be removed. Merely loosening the screws of the crankshaft bearing cover will cause deformations of the bearing seats of the cylinder block. These deformations reduce the bearing clearance. Even if the bearing shells were not replaced, the changed bearing clearance may cause damage to the bearing.

If the bearing cap bolts are loosened, the cylinder block must be renewed complete with the crankshaft.

It is not possible to measure the crankshaft bearing clearance under workshop conditions.

3 - Bracket for bottom auxiliary units

- ☐ for tensioning device and AC compressor
- ☐ Removing and installing ⇒ [“2.5 Removing and installing bracket for bottom auxiliary units”, page 55](#) for vehicles with air conditioning

4 - Screw

- ☐ 25 Nm

5 - Oil pan

- ☐ Removing and installing ⇒ [“1.2 Removing and installing oil pan”, page 125](#)

6 - Screw

- ☐ 13 Nm

7 - Screw

- ☐ for vibration damper
- ☐ Replace after removal
- ☐ The contact surface of the fixing screw must be free of grease and oil.
- ☐ insert oiled (thread)
- ☐ Tightening torque; slacken and tighten ⇒ [“1.3 Removing and installing vibration damper”, page 38](#)

8 - Vibration damper

- ☐ Pay attention to tightening process ⇒ [“1.3 Removing and installing vibration damper”, page 38](#)
- ☐ Contact surfaces must be free of oil and grease.
- ☐ Counterhold belt pulley with counterholder - T30004 (3415)- with bolt - T30004/2 (3415/2)- to prevent it from turning

9 - Washer

- ☐ diamond coated washer pressed onto the belt pulley
- ☐ replace if damaged

10 - Sealing ring

- ☐ Replace after removal
- ☐ Removing and installing ⇒ [“1.4 Replacing crankshaft sealing ring on the belt pulley side”, page 42](#)



11 - Screw

- ☐ 50 Nm

12 - Engine support bracket

13 - Screw

- ☐ Replace after removal
- ☐ 20 Nm + 90° further

14 - Sprocket

- ☐ for oil pump drive
- ☐ Contact surfaces must be free of oil and grease.
- ☐ Counterhold sprocket with counterholder -T10172-

15 - Drive chain for oil pump

- ☐ mark running direction (installed position) before removing

16 - Bottom cover

17 - Screw

- ☐ M6x40
- ☐ Replace after removal
- ☐ 5 Nm + torque a further 30°

18 - Screw

- ☐ M6x20
- ☐ Replace after removal
- ☐ 5 Nm + torque a further 30°

19 - Bottom timing case

- ☐ Removing and installing ⇒ [“2.6 Removing and installing the bottom timing case”, page 108](#)

20 - Bearing bolt

- ☐ 18 Nm

21 - Guide rail

- ☐ for timing chain

22 - Bearing bolt

- ☐ 18 Nm

23 - Screw

- ☐ Replace after removal
- ☐ 50 Nm + 90° further

24 - Tensioning rail

- ☐ for timing chain

25 - Screw

- ☐ Pay attention to tightening process ⇒ [“2.5 Removing and installing the top timing case”, page 105](#)

26 - Top timing case

- ☐ Removing and installing ⇒ [“2.5 Removing and installing the top timing case”, page 105](#)



Caution

Pay attention to tightening process!

27 - Timing chain

- ☐ Removing and installing ⇒ [“2.4 Removing and installing timing chain and drive chain for oil pump”, page 99](#)



Note

When removing and installing or replacing the timing chain on vehicles as of production date 06.2011, erase the initialisation values and adapt the engine control unit - J623- ➔ Vehicle diagnostic tester.

28 - Sprocket

- ☐ Counterhold sprocket with counterholder -T10172-

29 - Chain tensioner

- ☐ for timing chain
- ☐ 60 Nm

30 - Sealing ring

- ☐ integrated into chain tensioner, Pos. -29-

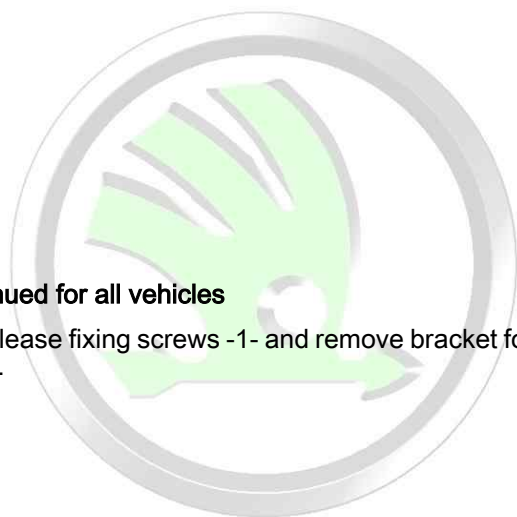
2.2 Checking valve timing

Special tools and workshop equipment required

- ◆ Fixing bolts - T10414-
- ◆ Locating screw - T10340-

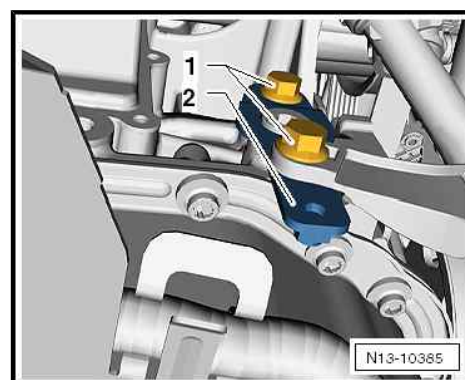
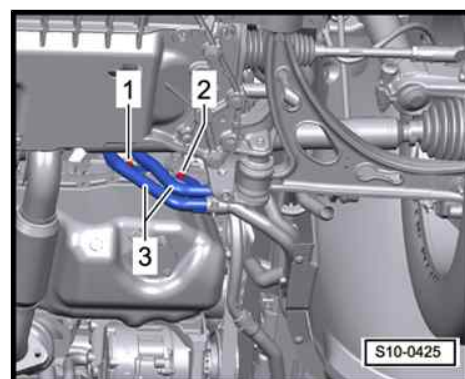
Vehicles with auxiliary heating

- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.



Continued for all vehicles

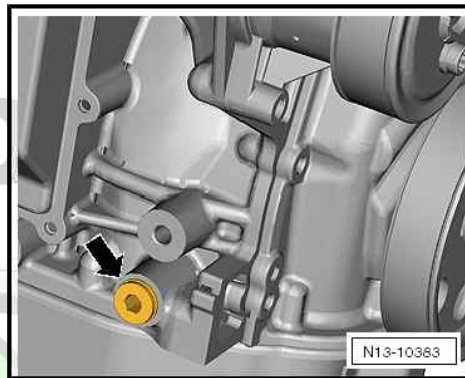
- Release fixing screws -1- and remove bracket for coolant pipe -2-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Release screw plug -arrow- at cylinder block.



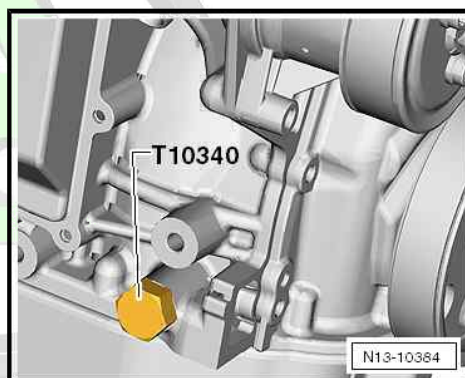
- Turn the fixing screw - T10340- up to the stop in the cylinder block.



Caution

If the fixing screw - T10340 - cannot be screwed in up to the stop, the crankshaft is not in the correct position!

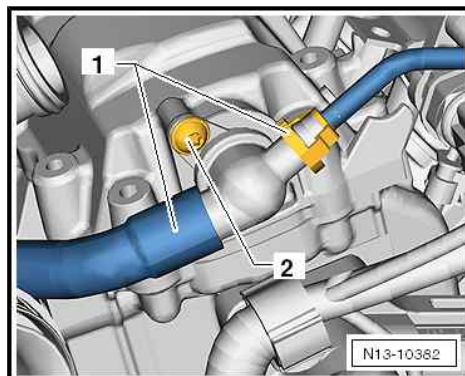
In this case proceed as described below.



- Unscrew locking pin.
- Turn the crankshaft 90° in the running direction of the engine.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.
- Turn crankshaft up to the stop in direction of rotation of engine.

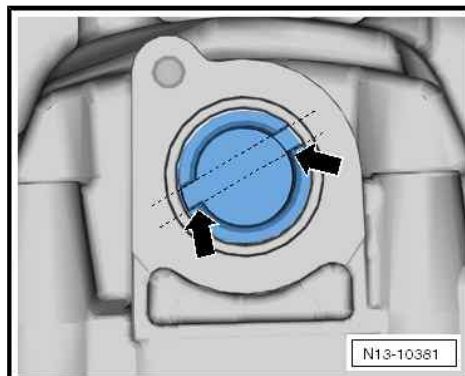
The crankshaft is locked in direction of rotation of engine with the locating screw - T10340- .

- Separate the hoses -1- from the non-return valve.
- Release the fixing screw -2- and pull the non-return valve out of the cylinder head cover.



The grooves in the camshaft -arrows- must be in the position shown.

- Insert the locking bolt - T10414- into the cylinder head cover up to the stop.



- Tighten fixing screw -1- by hand.

If the fixing bolt - T10414- cannot be inserted up to the stop into the camshaft opening, the timing is not correct and must be set
⇒ [“2.3 Setting the timing”, page 93](#) .

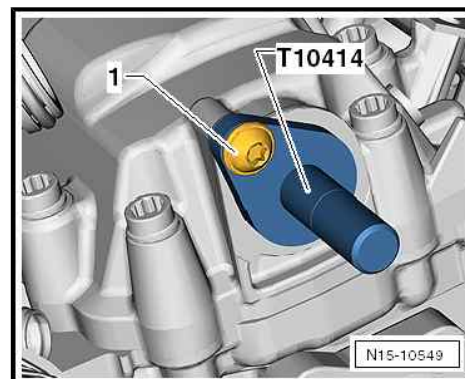
The timings are OK when the fixing bolt - T10414- can be pushed into the cylinder head cover as far as it can go, and the screw -1- can be tightened hand-tight.

- Remove fixing bolt - T10414- and fixing screw - T10340- .

Further installation occurs in reverse order.

Tightening torques

Component	Tightening torque
M6 screw for bracket/coolant pipe	10 Nm
M8 screw for bracket/coolant pipe	20 Nm
Screw for non-return valve	8 Nm
Screw plug for bore in the cylinder block	30 Nm
Locating screw - T10340-	30 Nm

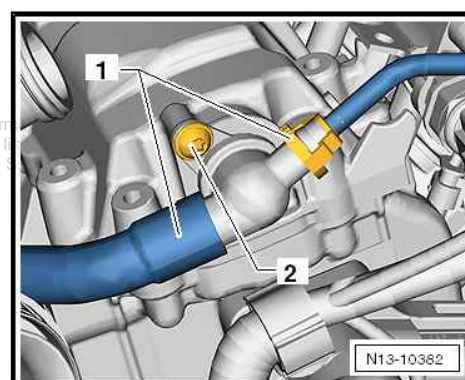


2.3 Setting the timing

Special tools and workshop equipment required

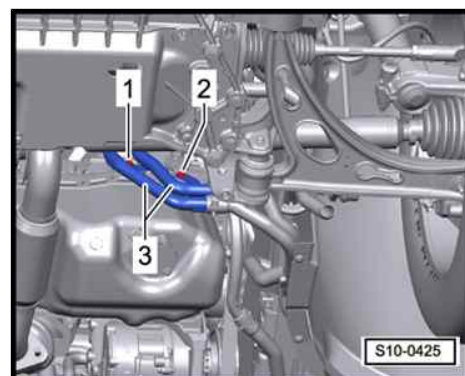
- ◆ Fixing bolts - T10414-
- ◆ Locating screw - T10340-
- ◆ Counterholder - T10172-
- Drain coolant ⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Remove top timing case
⇒ [“2.5 Removing and installing the top timing case”, page 105](#) .
- Separate the hoses -1- from the non-return valve.
- Release the fixing screw -2- and pull the non-return valve out of the cylinder head cover.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



Vehicles with auxiliary heating

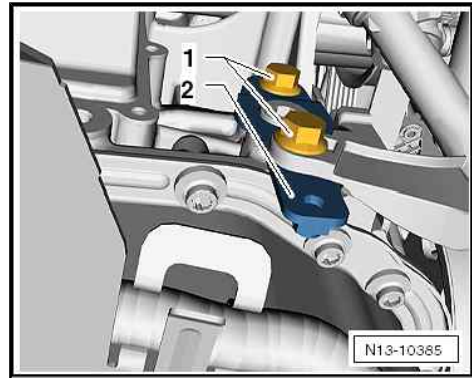
- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.



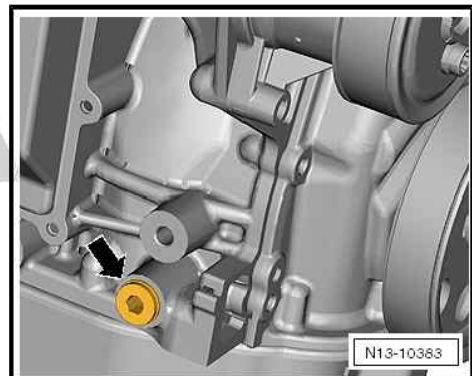


Continued for all vehicles

- Release fixing screws -1- and remove bracket for coolant pipe -2-.



- Release screw plug -arrow- at cylinder block.



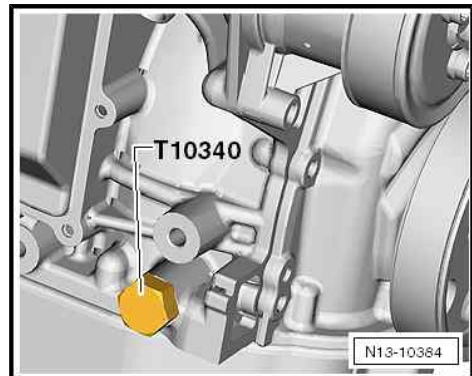
- Turn the fixing screw - T10340- up to the stop in the cylinder block.



Caution

If the fixing screw - T10340 - cannot be screwed in up to the stop, the crankshaft is not in the correct position!

In this case proceed as described below.



- Unscrew locking pin.
- Turn the crankshaft 90° in the running direction of the engine.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.

- Turn crankshaft up to the stop in direction of rotation of engine.

The crankshaft is locked in direction of rotation of engine with the locating screw - T10340- .

For vehicles manufactured up to 12.2009

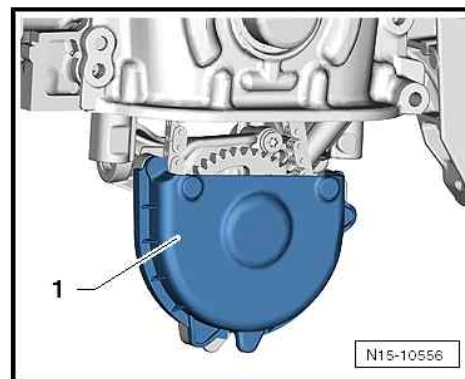


Note

On these vehicles, the timing chain can slip off the crankshaft gear when installing.

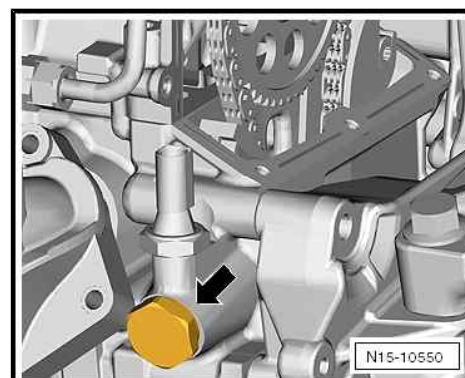
- Removing the oil pan
⇒ ["1.2 Removing and installing oil pan", page 125](#) .

- Pull off the cover -1- from the oil pump.

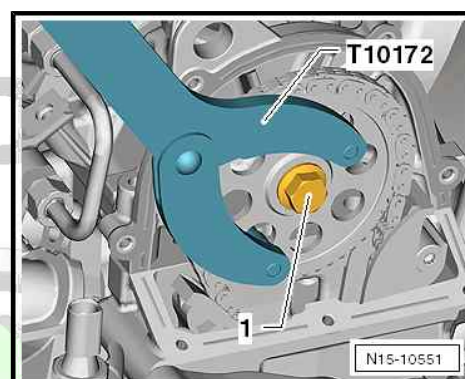


Continued for all vehicles

- Release chain tensioner -arrow- for timing chain.



- Hold the camshaft chain sprocket with the counterholder -T10172- and slacken the fixing screw -1- of the camshaft sprocket.
- Remove the camshaft chain sprocket together with the fixing screw.

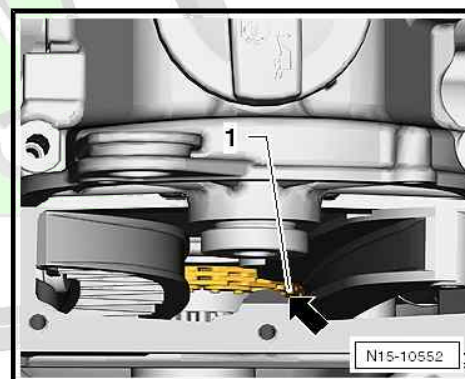


- Place the chain sprocket -1- down on the integrated peg -arrow- in the timing case.



Note

The integrated peg on the inner side of the timing case prevents the chain sprocket from falling down.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Position the camshaft chain sprocket -1- on the camshaft and tighten the fixing screw -2- to 50 Nm.
- Hold the camshaft chain sprocket with the counterholder - T10172- when tightening.
- Then rotate the crankshaft 90° (1/4 turn) in the opposite direction of rotation of the engine.

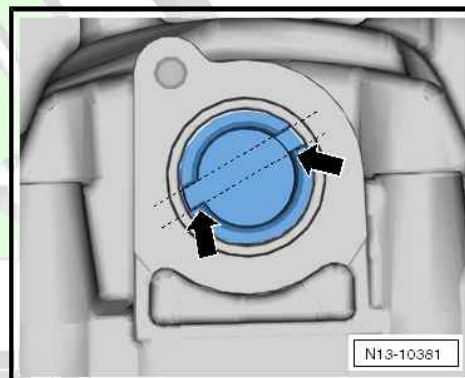


Note

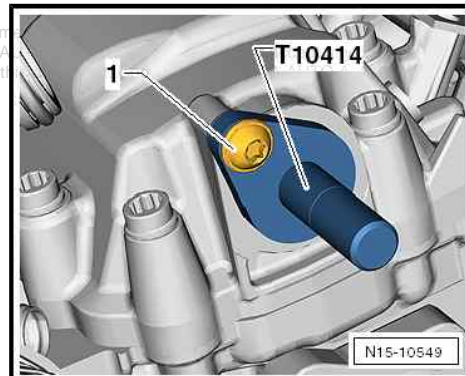
When subsequently adjusting the camshaft, damage to the valves is prevented by turning the crankshaft in the opposite direction of rotation of the engine.



- Turn the camshaft until the grooves -arrows- are in the position shown.



- Insert the locking bolt - T10414- into the cylinder head cover up to the stop.
- Tighten fixing screw -1- by hand.
- Turn crankshaft up to the stop in direction of rotation of engine.

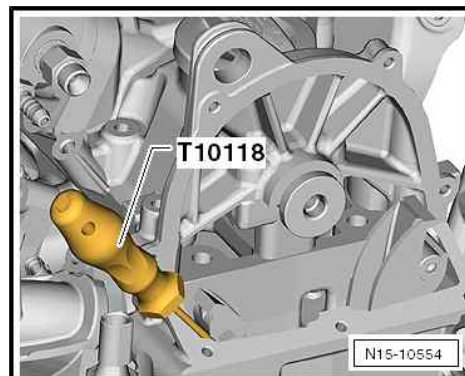


- Lift up the timing chain with the assembly device - T10118- .
- For vehicles manufactured up to 12.2009**

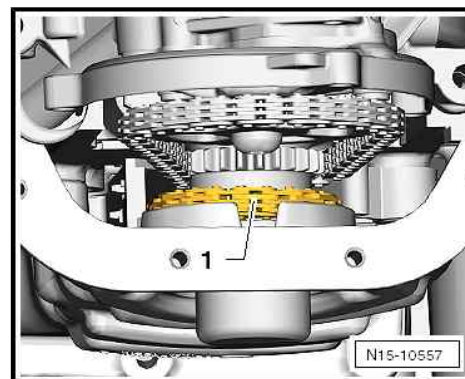


Note

On these vehicles, the timing chain can slip off the crankshaft gear when installing.



- Check the correct position of the timing chain -1- on the crankshaft gear from below.



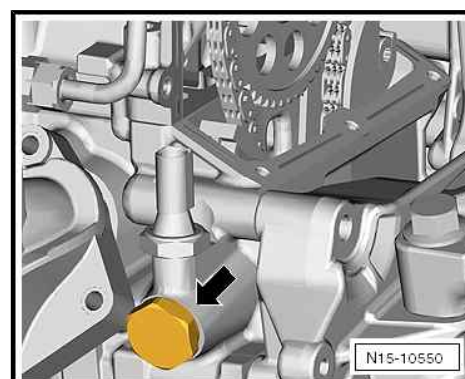
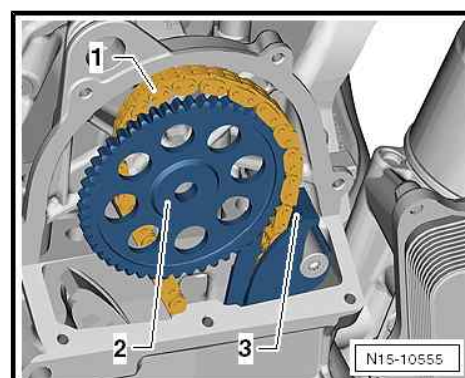
Continued for all vehicles

- Place the timing chain -1- onto the chain sprocket -2-.



Note

- ♦ *The timing chain must rest in the area of the sliding rail -3- and be slightly tensioned.*
- ♦ *The timing chain must run through the middle of the sliding rail.*
- Install fixing screw for camshaft chain sprocket and tighten by hand.
- Install and tighten chain tensioner.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Hold the camshaft chain sprocket with the counterholder - T10172- and tighten the fixing screw -1- of the camshaft chain sprocket to 50 Nm.



Note

The fixing screw is only turned a further 90° after checking the timing at the end of the work procedure.

- Remove the fixing bolt - T10414 - from the camshaft.
- Unscrew the locating screw - T10340- from the cylinder block.
- Turn the crankshaft in direction of rotation of engine by 2 turns.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.
- Turn crankshaft up to the stop in direction of rotation of engine.

The timing is O.K., if the fixing bolt - T10414- can be inserted in the camshaft.

If the timing is not O.K., the setting of the timing must be repeated.

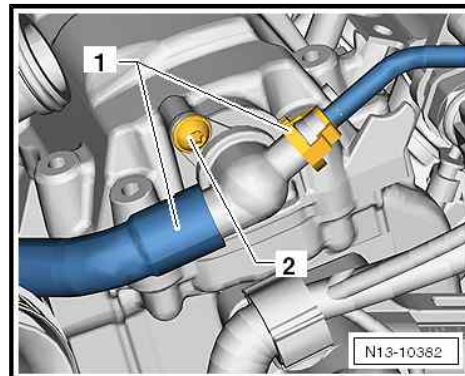
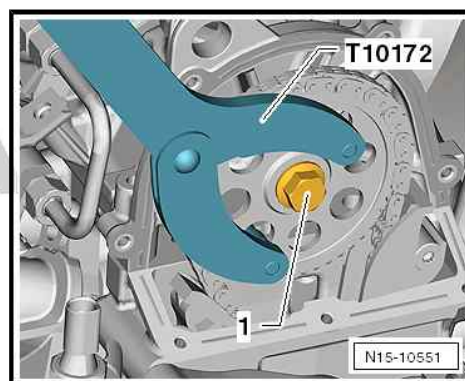
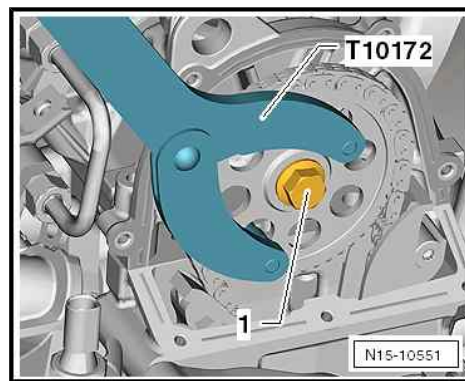
If timing is o.k.:

- Hold the camshaft chain sprocket with t counterholder - T10172- and torque the fixing screw -1- a further 90°.
- Remove fixing bolt - T10414- and fixing screw - T10340- .
- Install top timing case
⇒ [“2.5 Removing and installing the top timing case”, page 105](#) .

- Install non-return valve and tighten fixing screw -2-.
- Fit on hoses -1-.

For vehicles manufactured as of 12.2009

- Installing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®

Continued for all vehicles

- Install screw plug.
- Top up coolant
⇒ [“1.3 Draining and filling coolant”, page 142](#) .

For vehicles manufactured as of 06.2011

- Erase the initialisation values and adapt the engine control unit
- J623- ⇒ Vehicle diagnostic tester.

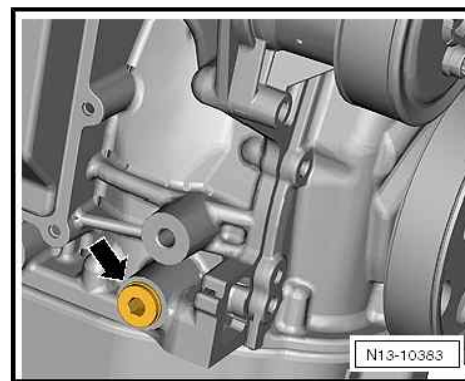
Continued for all vehicles

Further installation occurs in reverse order.

Tightening torques

- ◆ Screw for camshaft chain sprocket
⇒ [“3.1 Assembly overview - valve gear”, page 111](#) .
- ◆ Chain tensioner
⇒ [“2.1 Summary of components - timing chain”, page 87](#) .

Component	Tightening torque
M6 screw for bracket/coolant pipe	10 Nm
M8 screw for bracket/coolant pipe	20 Nm
Screw for non-return valve	8 Nm
Screw plug for bore in the cylinder block	30 Nm
Locating screw - T10340-	30 Nm



2.4 Removing and installing timing chain and drive chain for oil pump

⇒ [“2.4.1 Remove timing chain”, page 99](#)

⇒ [“2.4.2 Removing and installing the drive chain for oil pump”, page 102](#)

⇒ [“2.4.3 Installing timing chain”, page 103](#)

Special tools and workshop equipment required

- ◆ Fixing bolts - T10414-
- ◆ Locating screw - T10340-
- ◆ Counterholder - T10172 -
- ◆ Counterholder - T30004 (3415)-
- ◆ Bolt - T30004/2 (3415/2)-
- ◆ Assembly tool - T10417/1-



Note

First of all, the timing chain must be removed in order to remove the drive chain for oil pump.

2.4.1 Remove timing chain

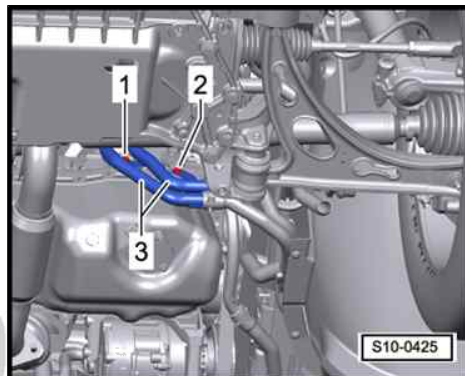
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .



- Remove top timing case
⇒ [“2.5 Removing and installing the top timing case”, page 105](#).

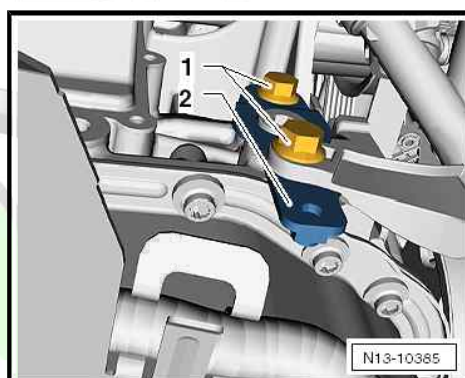
Vehicles with auxiliary heating

- Unscrew screws -1- and -2- of the brackets for the coolant pipes -3- for the auxiliary heating.

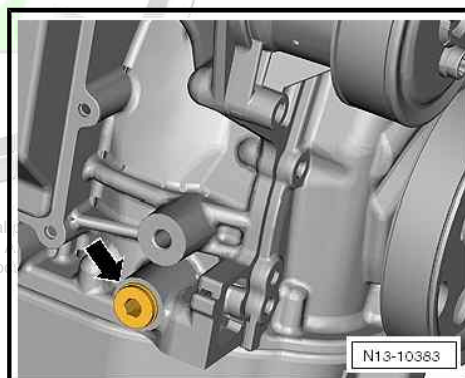


Continued for all vehicles

- Release fixing screws -1- and remove bracket for coolant pipe -2-.



- Release screw plug -arrow- at cylinder block.
- Removing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#).



Protected by copyright. Copying for private or commercial use is prohibited unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. reserves the right with respect to the correctness of information in this document.

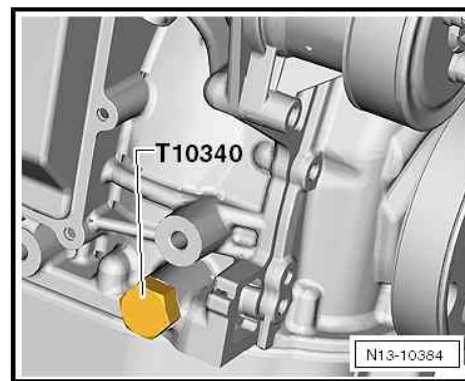
- Turn the fixing screw - T10340- up to the stop in the cylinder block.



Caution

If the fixing screw - T10340 - cannot be screwed in up to the stop, the crankshaft is not in the correct position!

In this case proceed as described below.

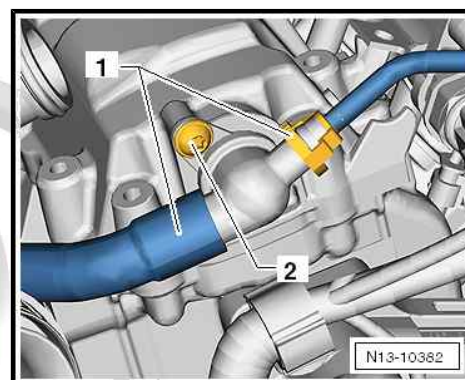


- Unscrew locking pin.
- Turn the crankshaft 90° in the running direction of the engine.
- Turn the fixing screw - T10340- up to the stop in the cylinder block.

- Turn crankshaft up to the stop in direction of rotation of engine.

The crankshaft is locked in direction of rotation of engine with the locating screw - T10340- .

- Separate the hoses -1- from the non-return valve.
- Release the fixing screw -2- and pull the non-return valve out of the cylinder head cover.



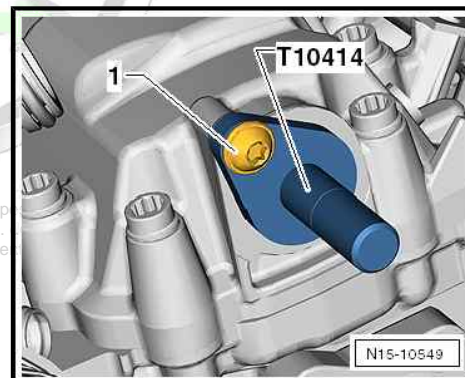
- Insert the locking bolt - T10414- into the cylinder head cover up to the stop.

- Tighten fixing screw -1- by hand.

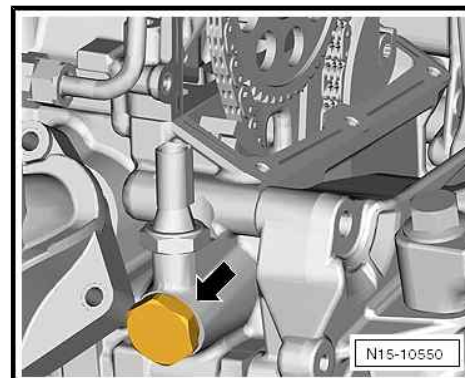
- Remove bottom timing case

⇒ **"2.6 Removing and installing the bottom timing case", page 108** .

Protected by copyright. Copying for private or commercial purposes without authorisation by ŠKODA AUTO A. S. ŠKODA AUTO A. S. with respect to the correctness of information in this document.



- Release chain tensioner -arrow- for timing chain.
- Mark with a felt-tip pen the direction of rotation of the timing chain.

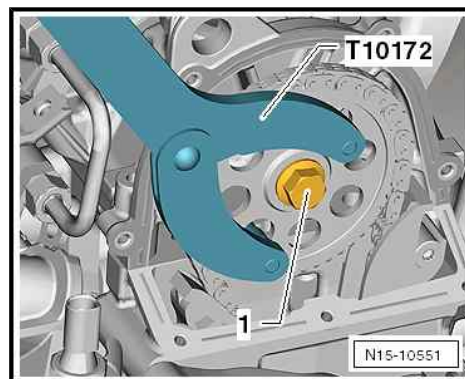


- Hold the camshaft chain sprocket with the counterholder - T10172- and slacken the fixing screw -1- of the camshaft sprocket.
- Remove the camshaft chain sprocket together with the fixing screw.
- Remove timing chain downwards.

Install timing chain ➔ [“2.4.3 Installing timing chain”, page 103](#) .

Tightening torques

Component	Tightening torque
Locating screw - T10340-	30 Nm

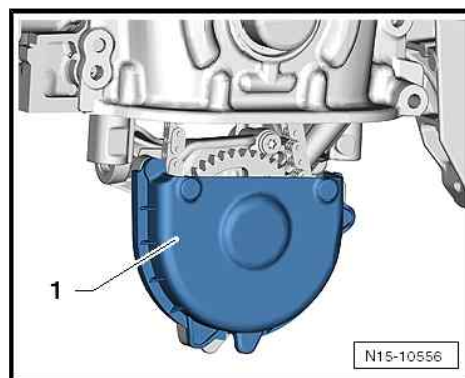


2.4.2 Removing and installing the drive chain for oil pump

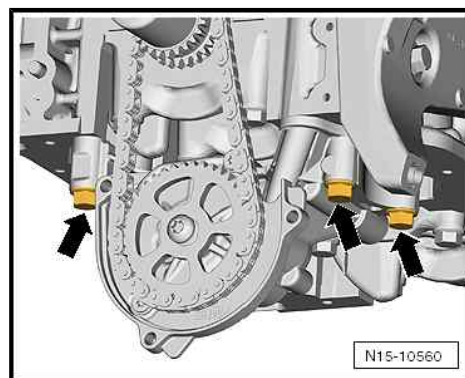
Removing

- Pull off the cover -1- from the oil pump.
- Mark with a felt-tip pen the direction of rotation of the drive chain for oil pump.

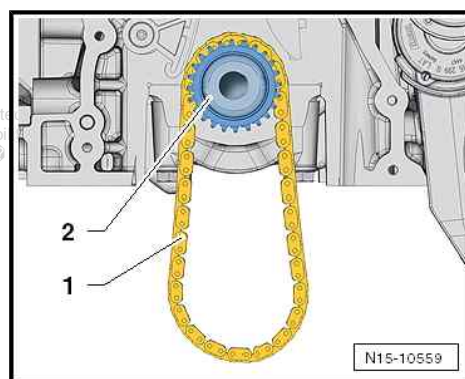
ŠKODA



- Unscrew the fixing screws -arrows- of the oil pump.
- Remove the complete oil pump from the drive chain.



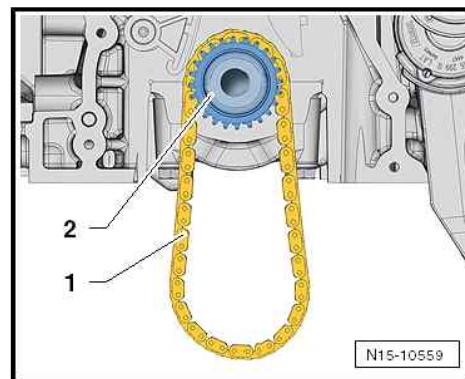
- Remove the drive chain for oil pump -1- from the rear ring gear -2- of the crankshaft gear.



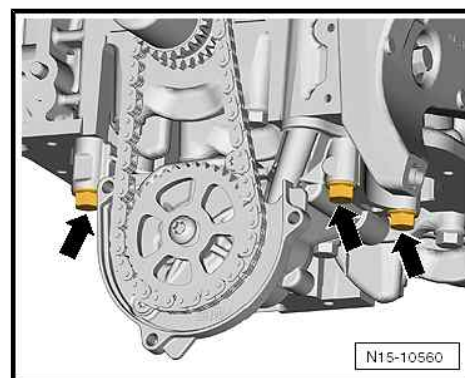
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

Installing

- Place the drive chain for oil pump -1- on the rear ring gear -2- of the crankshaft gear.



- Attach oil pump with chain sprocket to the drive chain and secure with new screws -arrow-.

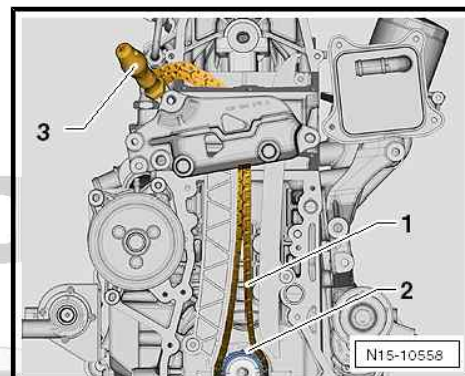


Tightening torques

- ◆ Screws for oil pump
⇒ ["1.1 Assembly overview - pan/oil pump", page 121](#) .

2.4.3 Installing timing chain

- Position the timing chain -1- from below at the front ring gear -2- of the crankshaft sprocket and guide it upwards between the sliding rail and the tensioning rail.
- Secure the timing chain, for example with a screwdriver -3-, against falling down.

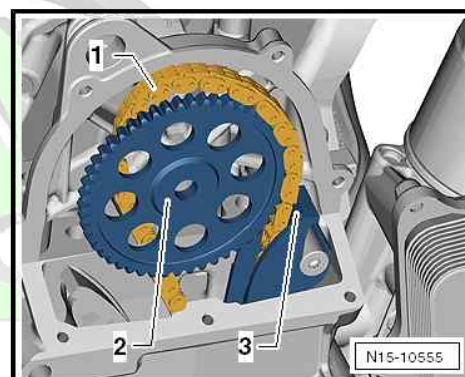


- Place the timing chain -1- onto the chain sprocket -2-.



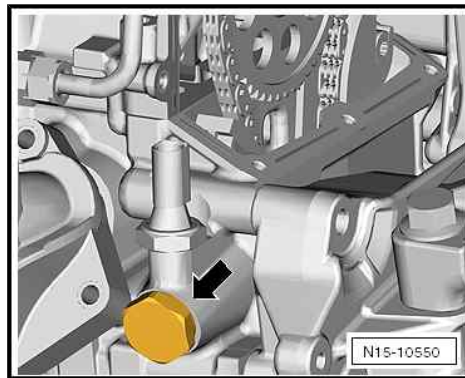
Note

- ◆ *The timing chain must rest in the area of the sliding rail -3- and be slightly tensioned.*
- ◆ *The timing chain must run through the middle of the sliding rail -3-.*
- Install fixing screw for camshaft chain sprocket and tighten by hand.





- Tighten the chain tensioner -arrow-.



- Hold the camshaft chain sprocket with the counterholder - T10172- and tighten the fixing screw -1- of the camshaft chain sprocket to 50 Nm.



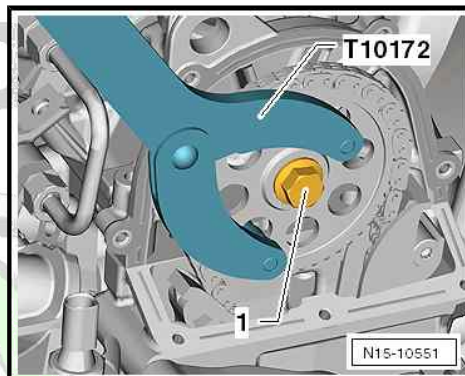
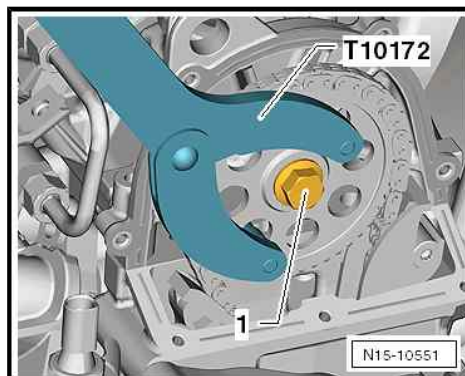
Note

The fixing screw is only turned a further 90° after checking the timing at the end of the work procedure.

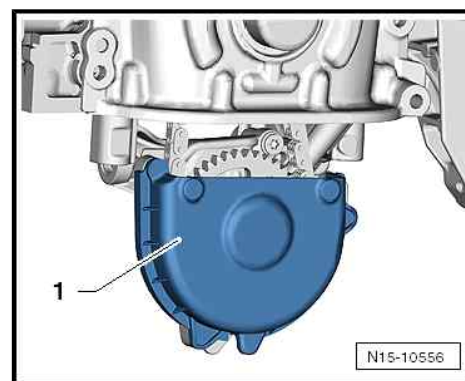
- Remove the fixing bolt - T10414- from the camshaft.
- Unscrew the locating screw - T10340- from the cylinder block.
- Turn the crankshaft in direction of rotation of engine by 2 turns.
- Test timing ➔ ["2.2 Checking valve timing", page 91](#) .

If timing is o.k.:

- Hold the camshaft chain sprocket with t counterholder - T10172- and torque the fixing screw -1- a further 90°.
- Install bottom timing case
➔ ["2.6 Removing and installing the bottom timing case", page 108](#) .



- Fit the cover -1- on the oil pump.
- Installing the oil pan
⇒ ["1.2 Removing and installing oil pan", page 125](#).
- Install vibration damper
⇒ ["1.3 Removing and installing vibration damper", page 38](#).
- Install the V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#).
- Install top timing case
⇒ ["2.5 Removing and installing the top timing case", page 105](#).
- Top up coolant
⇒ ["1.3 Draining and filling coolant", page 142](#).



For vehicles manufactured as of 06.2011

- Erase the initialisation values and adapt the engine control unit
- J623- ⇒ Vehicle diagnostic tester.

Continued for all vehicles

Further installation occurs in reverse order.

Tightening torques

- ◆ Screw for camshaft chain sprocket
⇒ ["3.1 Assembly overview - valve gear", page 111](#).
- ◆ Chain tensioner
⇒ ["2.1 Summary of components - timing chain", page 87](#).

Component	Tightening torque
M6 screw for bracket/coolant pipe	10 Nm
M8 screw for bracket/coolant pipe	20 Nm
Screw for non-return valve	8 Nm
Screw plug for bore in the cylinder block	30 Nm
Locating screw - T10340-	30 Nm

2.5 Removing and installing the top timing case

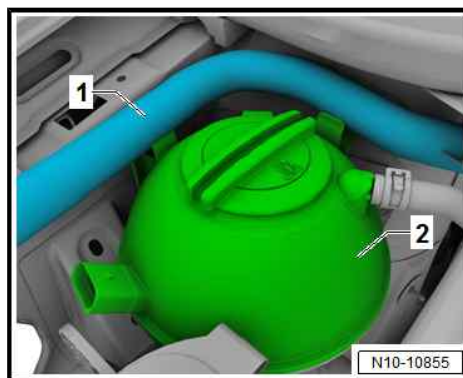
Special tools and workshop equipment required

- ◆ Hose binding claw
- ◆ Sealant ⇒ Electronic catalogue of original parts(ETKA)
- ◆ Screw M6x70 (2x) : adapt the screws by sawing off the heads
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves

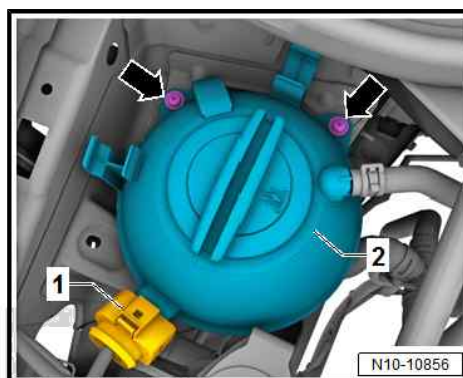


Removing

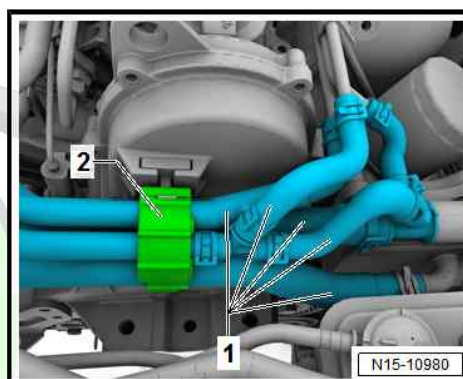
- Disconnect line -1- from the coolant expansion reservoir -2-.



- Unscrew fixing screws -arrows- and disconnect plug -1- from the coolant expansion reservoir -2-.



- Release clamp -2- from top timing case.
- Place coolant hose -1- with expansion reservoir to one side.

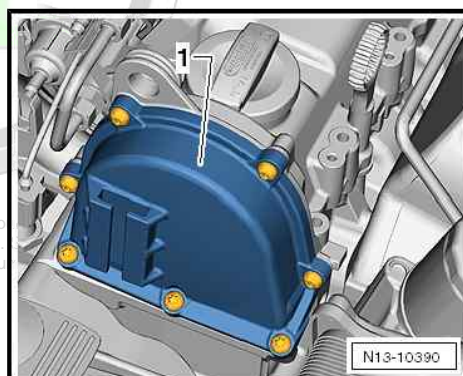


- Unscrew fixing screws from top timing case -1-.
- Remove top timing case.

Installing

Installation is carried out in the reverse order. When installing, observe the following:

Protected by copyright. Copying for private or commercial purposes without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. is prohibited. The publisher is not responsible for the correctness of information in this document.



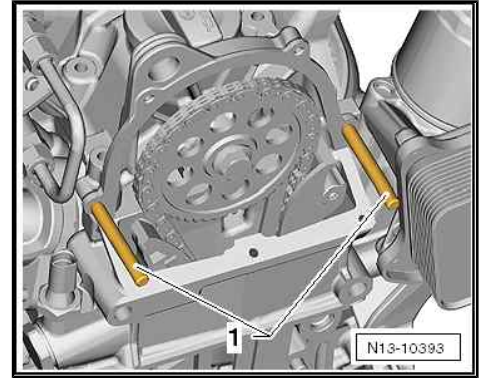
- To better guide the timing case, screw two pin screws M6x70 -1- into the cylinder head cover.



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Remove residual sealant from the sealing surfaces on the top timing case and at the cylinder head with chemical sealant remover.
- Degrease the sealing surfaces.
- Cut off nozzle tube at the front marking (\varnothing of nozzle approx. 3 mm).



Note

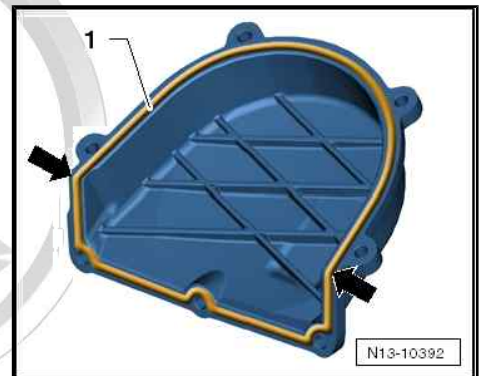
- ◆ *The installation procedure must not last longer than 6 minutes from the moment the sealant is applied until the moment the fixing screws are tightened to 8 Nm.*
- ◆ *The sealant begins to harden after 6 minutes.*
- ◆ *Ensure that the tightening process of the fixing screws is carried out in two steps.*

- Apply sealant on the sealing surface -1-.



Note

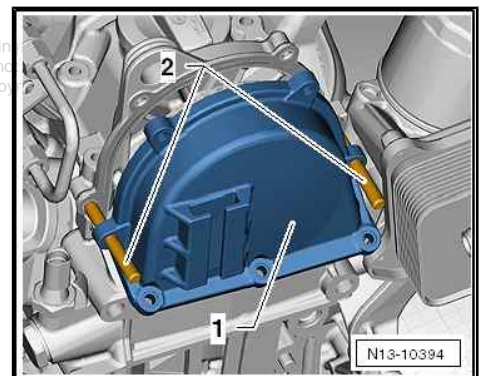
Apply a little more sealant in the area of the -arrows-.



- Position the top timing case -1- on the pin screws -2-.
- Slide the top timing case -1- up to the stop onto the cylinder head cover.

Make sure that the top timing case does not tilt.

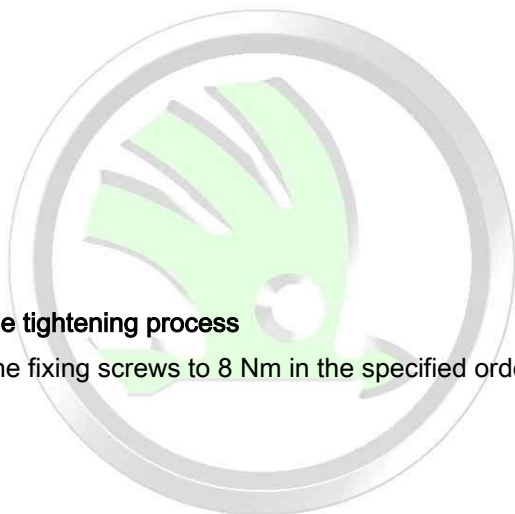
- Release the stud bolts and screw in the fixing screws by hand.





Stage I of the tightening process

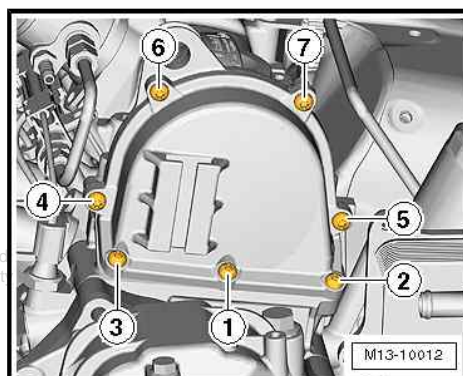
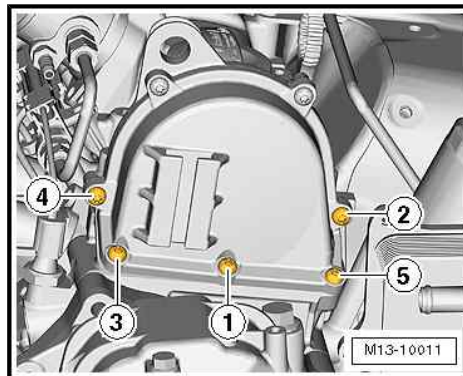
- Tighten the fixing screws to 5 Nm in the specified order -1- to -5-.



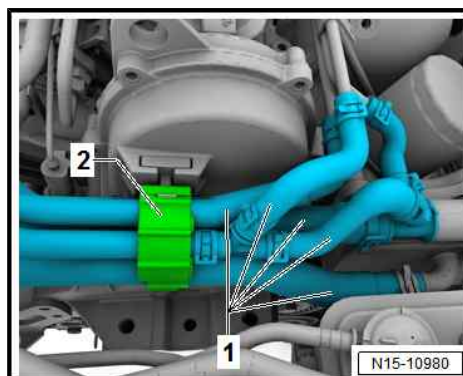
Stage II of the tightening process

- Tighten the fixing screws to 8 Nm in the specified order -1- to -7-.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



- Push the clamp -2- from above fully into the bracket.
- Install coolant expansion reservoir.



2.6 Removing and installing the bottom timing case

Special tools and workshop equipment required

- ◆ Assembly tool - T10417/1-
- ◆ Counterholder - T30004 (3415)-
- ◆ Bolt - T30004/2 (3415/2)-
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves
- ◆ Sealant ⇒ Electronic catalogue of original parts(ETKA)

Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. gr. 66 .

- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .

Vehicles with air conditioning

- Remove dust cap -1-.
- Remove guide pulley -2-.

Continued for all vehicles

- Remove belt pulley for coolant pump, to do so counterhold the belt pulley with the water pump wrench - V.A.G 1590- .
- Remove vibration damper
⇒ [“1.3 Removing and installing vibration damper”, page 38](#) .
- Removing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#) .
- Unscrew all the fixing screws from the bottom timing case -1-.
- Carefully remove the bottom timing case.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



WARNING

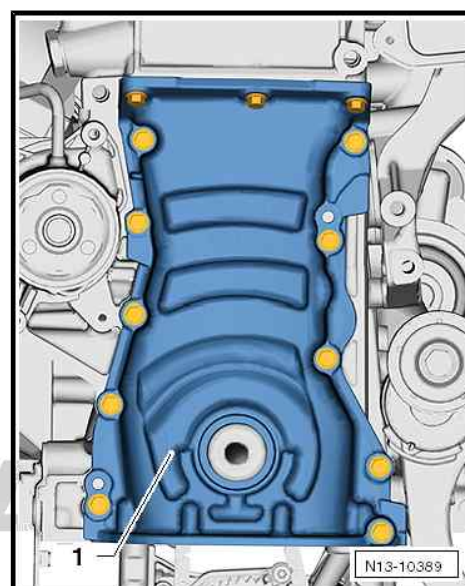
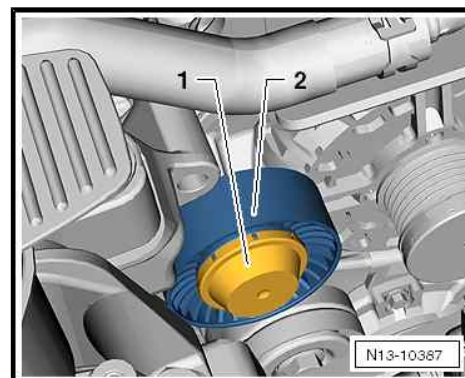
Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Remove residual sealant from the sealing surfaces on the bottom timing case and at the cylinder block with chemical sealant remover.
- Degrease the sealing surfaces.
- Cut off nozzle tube at the front marking (\varnothing of nozzle approx. 3 mm).



Note

- ◆ *The installation procedure must not last longer than 6 minutes from the moment the sealant is applied until the moment the fixing screws are tightened.*
- ◆ *The sealant begins to harden after 6 minutes.*





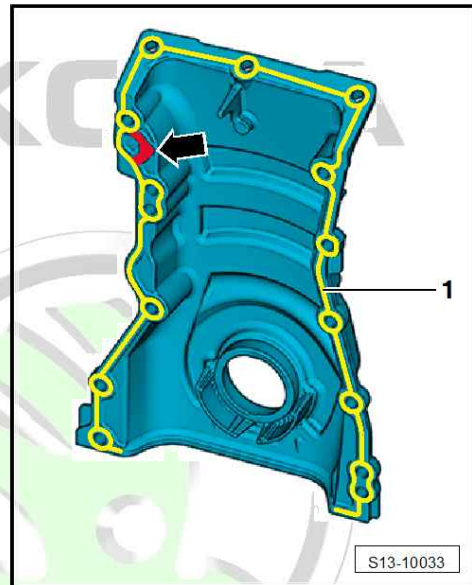
- Apply sealant on the sealing surface -1-.



Note

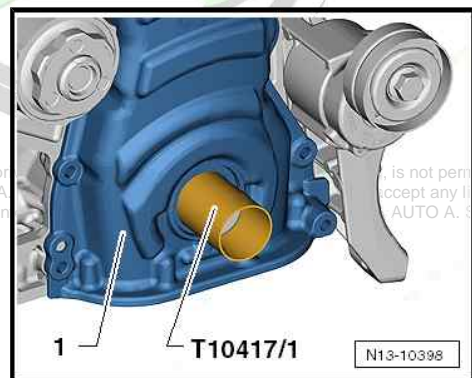
No sealant must be applied in the area -arrow-.

The sealant bead must be 2...3 mm thick and must run past the area of the bolt holes all around the holes.



- Fit the assembly tool - T10417/1- onto the crankshaft journal.
- Carefully slide the bottom timing case -1- together with the sealing ring over the assembly device - T10417/1- .
- Remove the assembly device - T10417/1- from the crankshaft journal.

Protected by copyright. Copying for private use is not permitted unless authorised by ŠKODA AUTO A.S. with respect to the correctness of information.



- Slide the bottom timing case onto the dowel pins -arrows- until it rests against the cylinder block.

Make sure that the bottom timing case does not tilt.



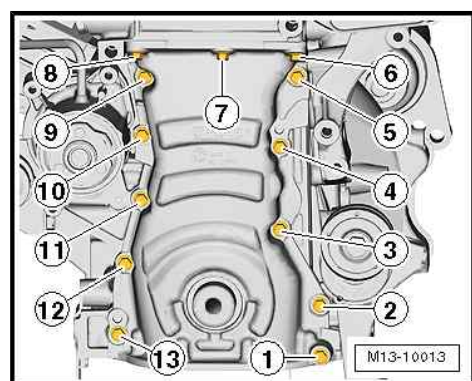
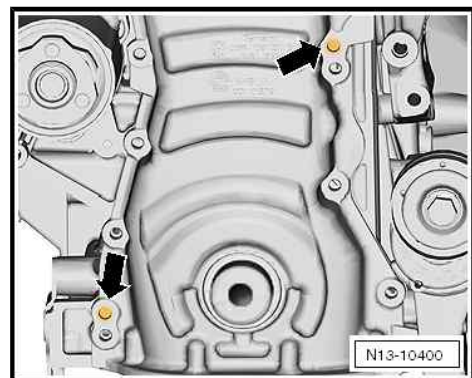
Caution

Pay attention to the tightening torque of the fixing screws!
When installing, use new screws.

- First of all tighten the new fixing screws of the timing case evenly by hand.
- Tighten the fixing screws in the specified order -1- to -12-.
- Install vibration damper
⇒ ["1.3 Removing and installing vibration damper", page 38](#) .

Tightening torques

- ♦ Bottom timing case
⇒ ["2.1 Summary of components - timing chain", page 87](#) .
- ♦ Belt pulley for coolant pump
⇒ ["1.1 Assembly overview - V-ribbed belt drive", page 34](#) .
- ♦ Guide pulley
⇒ ["1.1.2 Summary of components - V-ribbed belt drive for vehicles with air conditioning system", page 36](#) .



3 Valve gear

⇒ [“3.1 Assembly overview - valve gear”, page 111](#)

⇒ [“3.2 Checking the axial play of the camshaft”, page 112](#)

⇒ [“3.3 inspecting valve guides”, page 113](#)

⇒ [“3.4 Testing valves”, page 113](#)

⇒ [“3.5 reworking valve seats”, page 116](#)

⇒ [“3.6 Replacing valve stem seals”, page 116](#)

⇒ [“3.7 Valve dimensions”, page 120](#)

3.1 Assembly overview - valve gear

1 - Screw

- ☐ Replace after removal
- ☐ 50 Nm + 90° further

2 - Camshaft sprocket

- ☐ take note of the position when installing the timing chain

3 - Screw

- ☐ 10 Nm

4 - Hall sender - G40-

- ☐ with O-ring
- ☐ replace the O-ring if it is damaged

5 - Cylinder head cover

- ☐ Removing and installing
⇒ [“1.2 Removing and installing cylinder head cover and camshaft”, page 66](#)

6 - Non-return valve



Note

Replacement O-rings are not delivered separately

7 - Screw

- ☐ 10 Nm

8 - O-ring



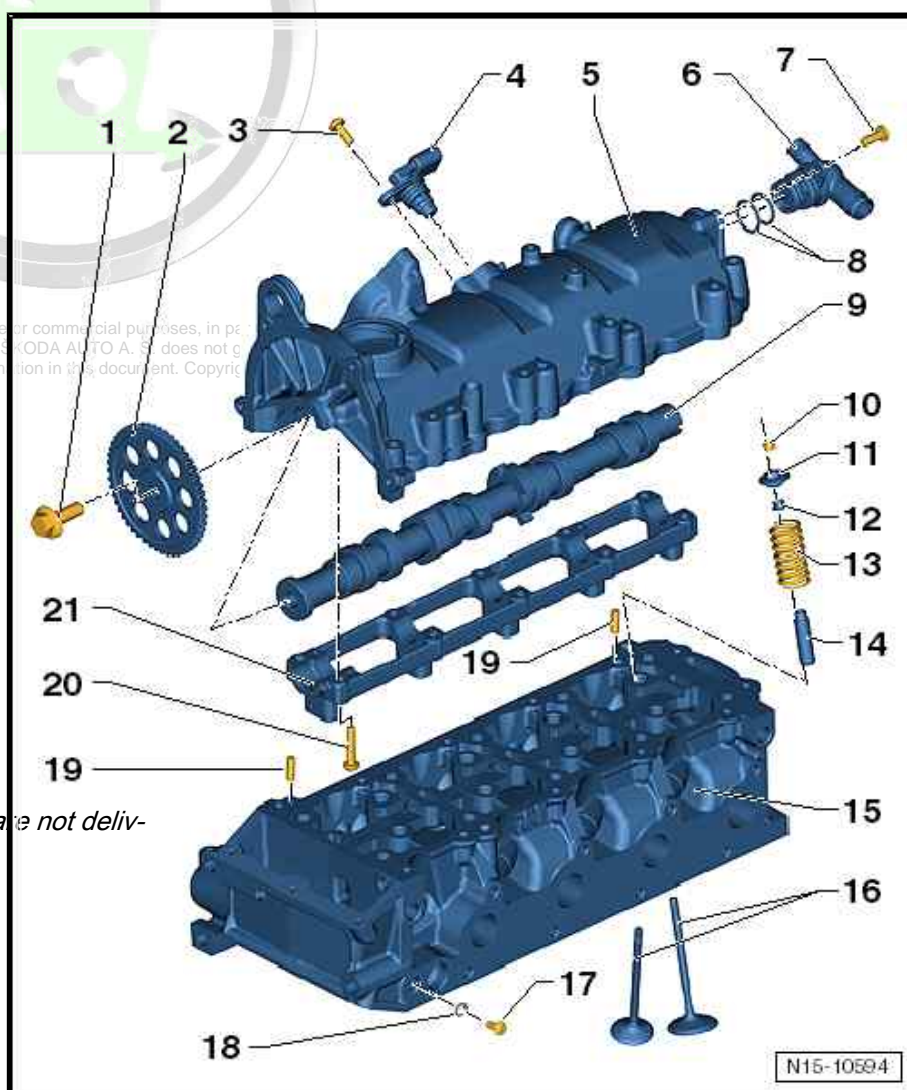
Note

Replacement O-rings are not delivered separately

- ☐ Replace the non-return valve if the O-rings get damaged
- ☐ before fitting moisten lightly with engine oil

9 - Camshaft

- ☐ Removing and installing ⇒ [“1.2 Removing and installing cylinder head cover and camshaft”, page 66](#)
- ☐ Inspecting axial play ⇒ [“3.2 Checking the axial play of the camshaft”, page 112](#)





- ☐ moisten with oil before installing (also axial bearing collar)

10 - Valve collets

11 - Valve spring plate

12 - Valve stem gasket

- ☐ Replace after removal

13 - Valve spring

- ☐ with the cylinder head removed, remove and install with blank holder - 3362-
- ☐ (with cylinder head installed) ⇒ ["3.6.1 Replacing valve stem seals, cylinder head installed", page 116](#)

14 - Valve guide

- ☐ Check ⇒ ["3.3 inspecting valve guides", page 113](#)

15 - Cylinder head

- ☐ removing and installing:

- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)", page 76](#)
- ◆ Octavia II, Yeti ⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)", page 81](#)
 - ☐ reworking valve seats ⇒ ["3.5 reworking valve seats", page 116](#)
 - ☐ Machine the sealing surface ⇒ [page 112](#)

16 - Valves

- ☐ do not rework, only grinding in is permissible
- ☐ Valve dimensions ⇒ ["3.7 Valve dimensions", page 120](#)

17 - Screw

- ☐ 15 Nm

18 - Seal

- ☐ Replace after removal

19 - Dowel pins

20 - Screw

- ☐ observe the order of tightening up
- ☐ Removing and installing ⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#)
- ☐ 8 Nm

21 - Bearing frame

- ☐ for camshaft
- ☐ Removing and installing ⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#)

Released by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted, unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

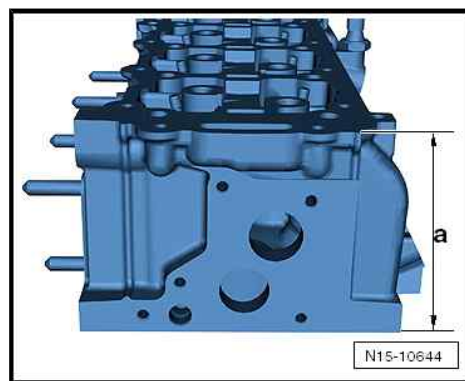
Machine the cylinder head gasket sealing surface

Minimum machining of cylinder head: a = 103.75 mm



Note

When machining the sealing surface, set valves deeper by the same dimension (machine valve seats). Otherwise, the valves will strike against the piston. When doing this, ensure that the dimension does not fall short of the permissible minimum dimension.



3.2 Checking the axial play of the camshaft

Special tools and workshop equipment required

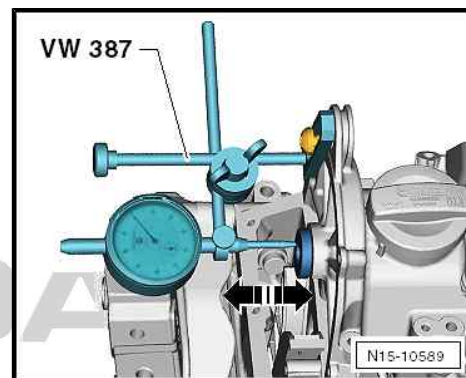
- ◆ Universal dial gauge bracket - MP 3-447 (VW 387)-

- ◆ Dial gauge

Perform measurement with the cylinder head cover installed.

Checking the axial play of the camshaft

- Wear limit: 0,4 mm



3.3 inspecting valve guides

Special tools and workshop equipment required

- ◆ Universal dial gauge bracket - MP 3-447 (VW 387)-
- ◆ Dial gauge , e.g. -VAS 6079-



Note

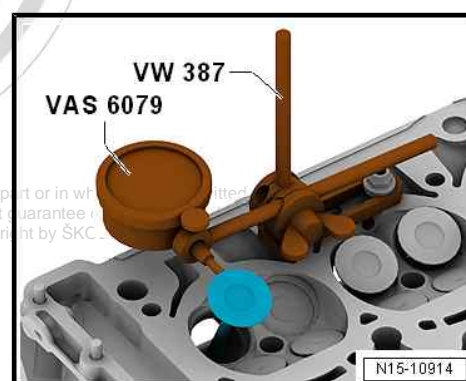
If the valve is replaced when carrying out repair work, use a new valve for the measurement.

- Insert valve into guide. The end of valve stem must be flush with guide. Because of the different stem diameters only use inlet valve in inlet guide or outlet valve in outlet guide.
- Determine valve rock.
- Wear limit: 0,8 mm



Note

If the wear limit is exceeded, repeat measurement with new valves.



If the valve rock is exceeded:

- Replace the cylinder head:
- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)", page 76](#) .
- ◆ Octavia II, Yeti
⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)", page 81](#) .

3.4 Testing valves

Special tools and workshop equipment required

- ◆ Straightedge - T40100-
- ◆ Depth gauge



Note

- ◆ *When carrying out repairs on engines with leaking valves, it is not sufficient to machine or replace the valve seats and valves. It is also necessary to inspect the valve guides for wear, particularly on engines with a high mileage
⇒ ["3.3 inspecting valve guides", page 113](#) .*
- ◆ *Valve seats are only to be machined to the extent required to yield a proper surface appearance. Calculate the maximum permissible reworking dimension before commencing. If the reworking dimension is exceeded, proper operation of the valve gear is no longer assured and the cylinder head must be replaced.*

Calculating maximum permissible reworking dimension

- Insert valve and press firmly against the valve seat.



Note

- ◆ *If the valve is replaced when carrying out repair work, use a new valve for the measurement.*
- ◆ *If no new valve is used, then the valve disc must be thoroughly cleaned.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

- Measure clearance between end of valve shaft and the upper edge of the straightedge - T40100- .

Calculate max. permissible reworking dimension from the distance measured and the highest possible excess length.

Maximum permissible projection: inlet valve 1.0 mm, outlet valve 0.9 mm

Highest possible excess length minus valve protrusion measured
= max. permissible reworking dimension.



Note

Material thickness of straightedge - T40100- = 7.7 mm

Example for inlet valve:

Calculate valve protrusion

Material thickness of straightedge - T40100-	7.7 mm
- Measured distance	7.2 mm
= Valve protrusion	0.5 mm

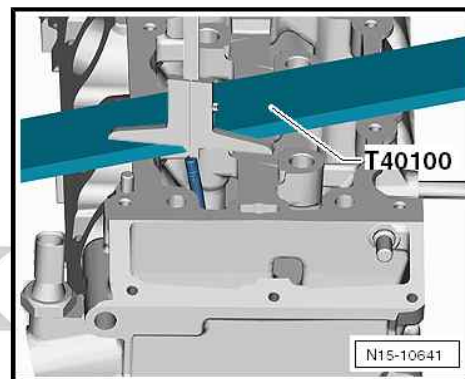
Calculating maximum permissible reworking dimension

maximum permissible inlet valve projection	1.0 mm
- Valve protrusion	0.5 mm
= max. permissible reworking dimension	0.5 ¹⁾ mm

Maximum permissible reworking dimension of inlet valve: 0.5 mm

¹⁾ The maximum permissible reworking dimension is shown in the figures for reworking the valve seats as dimension "b"

⇒ Fig. "Reworking inlet valve seat", page 116 .

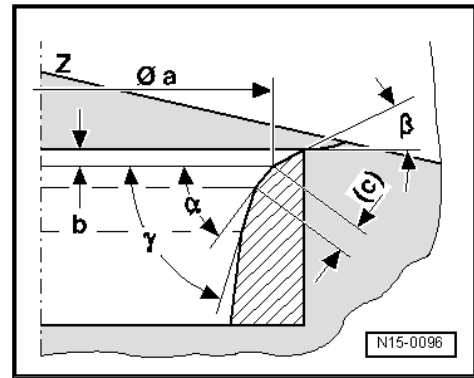




3.5 reworking valve seats

Reworking inlet valve seat

Di- men- sion	Inlet valve seat	
$\varnothing a$	mm	34.8
b	mm	max. permissible reworking dimension ¹⁾
c	mm	1.3...1.9
Z	Bottom edge of cylinder head	
α	45° valve seat angle	
β	30° top correction angle	
γ	70° bottom correction angle	



Reworking exhaust valve seat

Di- men- sion	Exhaust valve seat	
$\varnothing a$	mm	29.0
b	mm	max. permissible reworking dimension ¹⁾
c	mm	1.9...2.0
Z	Bottom edge of cylinder head	
α	45° valve seat angle	
β	30° top correction angle	
γ	70° bottom correction angle	

¹⁾ Calculating maximum permissible reworking dimension
 ⇒ [page 114](#) .

3.6 Replacing valve stem seals

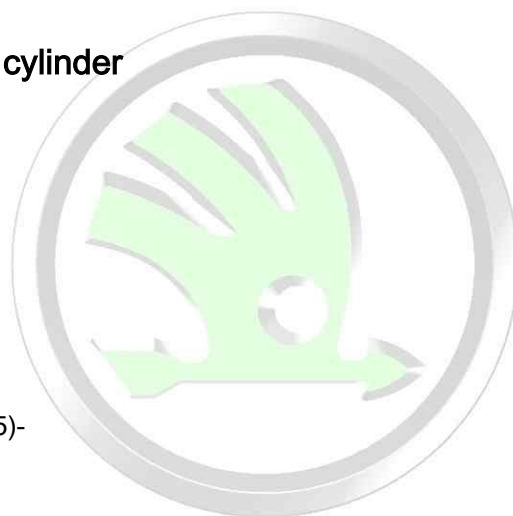
⇒ ["3.6.1 Replacing valve stem seals, cylinder head installed", page 116](#)

⇒ ["3.6.2 Replacing valve stem seals, cylinder head removed", page 117](#)

3.6.1 Replacing valve stem seals, cylinder head installed

Special tools and workshop equipment required

- ◆ Spark plug wrench , e.g. -3122 B-
- ◆ Valve lever - MP 1-211 (VW 541/1A/5) -
- ◆ Pressure hose - MP 1-210 (VW 653/3)-
- ◆ Assembly tool - MP 1-213 (2036)-
- ◆ Valve supporting plate - MP 1-218-
- ◆ valve stem seal insertion tool - MP 1-233 (3365)-
- ◆ Valve stem seal extractor - MP 1-230 (3364)-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ®

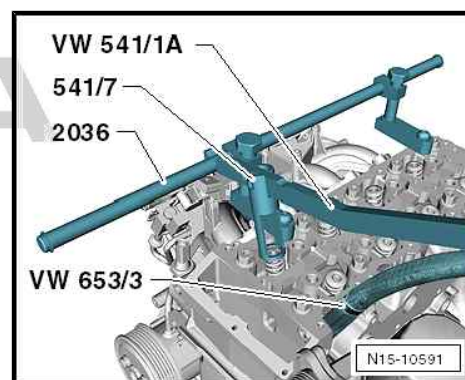
Removing



Note

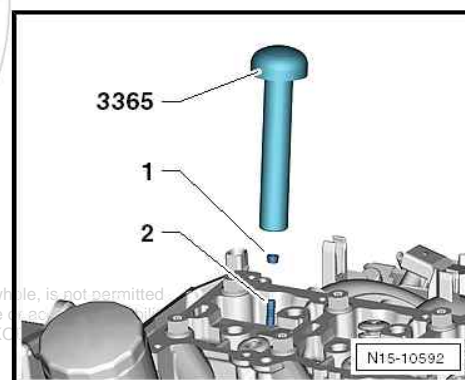
With cylinder head removed, use valve lever - MP 1-211- , assembly device for valves - MP 1-213- and valve supporting plate - MP 1-218- .

- Remove cylinder head cover
⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#) .
- Remove roller rocker arm and place on a clean surface. When doing this, ensure that roller rocker fingers are not interchanged.
- Unscrew the spark plugs with spark plug wrench - 3122 B- .
- Put the piston of the relevant cylinder at "bottom dead centre".
- Screw the assembly device - MP 1-213 (2036)- onto the cylinder head.
- Screw the pressure hose - MP 1-210 (VW 653/3)- in the spark plug thread.
- Connect pressure hose to compressed air [min. 0.6 MPa (6 bar) overpressure] and remove the valve spring with valve lever - MP 1-211 (VW 541/1A/5) - and pressure plate - VW 541/7- .
- Pull off valve stem seal with the valve stem seal extractor - MP 1-230 (3364)- .



Installing

- Insert the supplied plastic bushings on the relevant valve stem. This will prevent any damage to the new valve stem seals.
- Insert the new valve stem seal -1- into the insertion tool for valve stem seal -MP 1-233 (3365)- .
- Oil the sealing lip of the valve stem seal and carefully slide over the valve -2- onto the valve guide.
- Install cylinder head cover
⇒ ["1.2 Removing and installing cylinder head cover and camshaft", page 66](#) .
- Install spark plugs
⇒ ["1.1 Assembly overview - ignition system", page 310](#) .



Further installation occurs in reverse order.

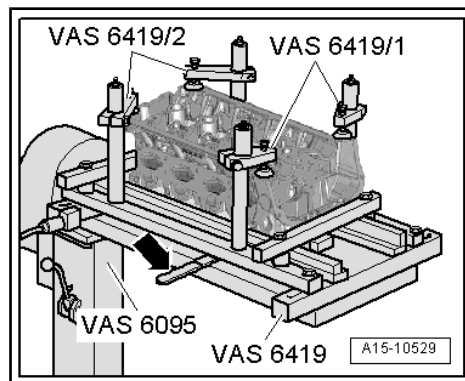
3.6.2 Replacing valve stem seals, cylinder head removed

Special tools and workshop equipment required

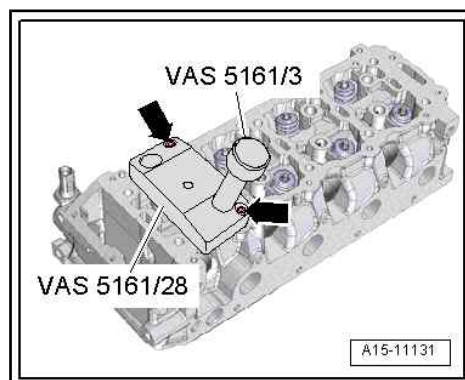
- ◆ Valve stem seal extractor - MP 1-230 (3364)-
- ◆ valve stem seal insertion tool - MP 1-233 (3365)-
- ◆ Disassembly and assembly device for valve collets - VAS 5161- with guide plate -VAS 5161/28-
- ◆ Engine and gearbox mount - VAS 6095-
- ◆ Cylinder head tensioning device - VAS 6419-



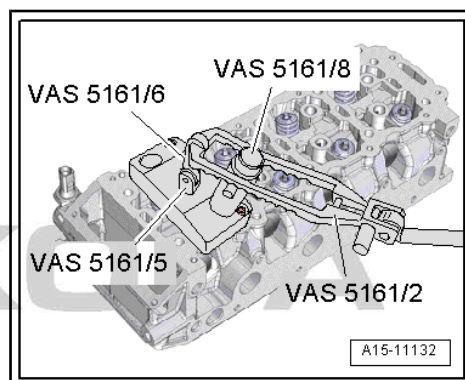
- Insert the cylinder head tensioning device - VAS 6419- into the engine and gearbox jack - VAS 6095- .
- Tension cylinder head in the cylinder head tensioning device - VAS 6419- according to the operating manual.
- Connect cylinder head tensioning device to compressed air.
- Adjust the air bellows with the lever below the combustion chamber on which the valve stem seals should be removed.
- Allow just enough air to flow into the air bag so that it applied to the valve disc.



- Place guide plate -VAS 5161/28- on the cylinder head, be careful to find the correct position:
 - Marking "A" points towards the outlet side, "E" to the inlet side.
- Screw the guide plate with hexagon socket head bolts -arrows- onto the cylinder head.
- Insert the impact drift -VAS 5161/3- into the guide plate and knock off the tightly fitted valve collets using a plastic hammer.



- Screw the detent part -VAS 5161/6- with the interlocking fork -VAS 5161/5- into the guide plate.
- Re-insert the assembly cartridge -VAS 5161/8- into the guide plate.
- Hook the pressure fork -VAS 5161/2- onto the detent part and push the assembly cartridge downwards.
- Turn simultaneously the knurled screw of the assembly cartridge to the right, until the tips click into the valve collets.
- Rotate the knurled screw to the left and to the right, by doing so the valve collets are pressed apart and are installed in the assembly cartridge.
- Release the pressure fork.
- Remove assembly cartridge.
- Unscrew guide plate and turn it to the side.
- Remove the valve spring with the valve spring retainer.



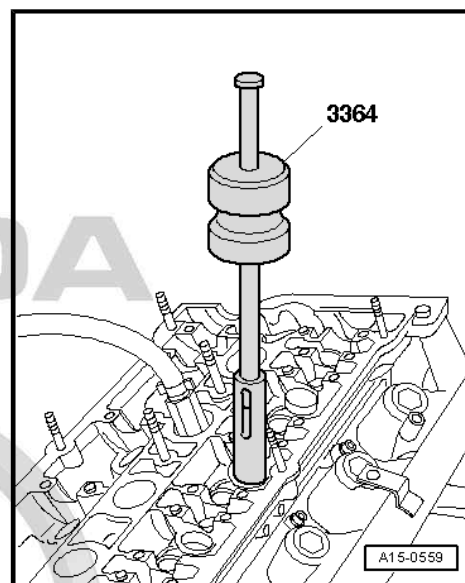
- Pull off valve stem seal with the valve stem seal extractor - 3364- .



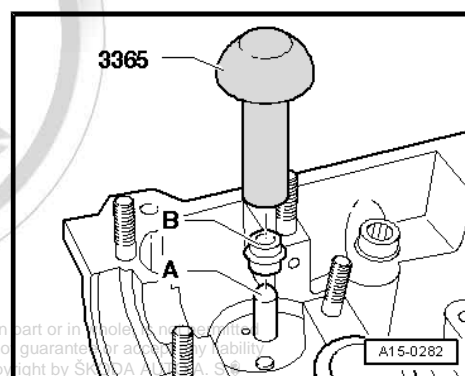
Caution

Risk of damage when installing the valve stem seals.

Fit the plastic bushing -A-, which is attached to the new valve stem seals -B-, onto the valve stem.

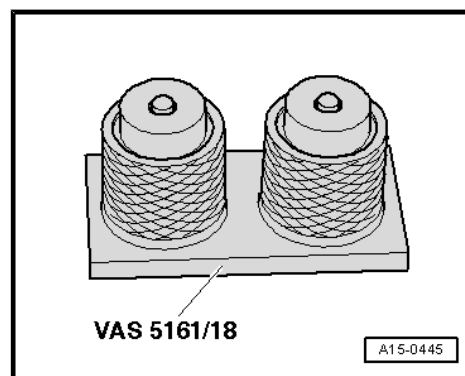


- Lightly oil sealing lip of the new valve stem seal.
- Slide the valve stem seal onto the plastic bushing.
- Carefully press the valve stem seal with the valve stem seal insertion tool - 3365- onto the valve guide.
- Remove plastic sleeve.

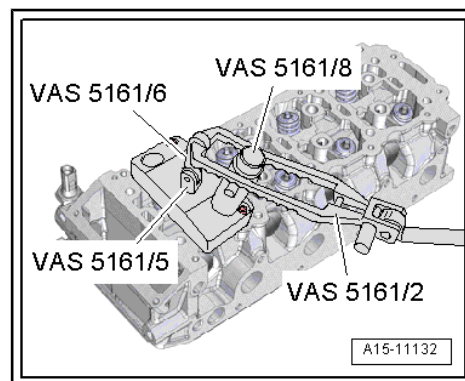


If the valve collets were removed from the assembly cartridge, first of all they must be inserted into the insertion device - VAS 5161/18- .

- The large diameter of the valve collets points to the top.
- Press the assembly cartridge from the top onto the insertion device for valve collets and lift up the valve collets.
- Insert the valve spring and the valve spring retainer.
- Screw the guide plate -VAS 5161/28- back onto the cylinder head.



- Re-insert the assembly cartridge - VAS 5161/8- into the guide plate.
- Press down the pressure fork and turn the knurled screw to the left and to the right while pulling it upwards, by doing so the valve collets are inserted.
- Release the pressure fork on tightened knurled screw.
- Repeat the procedure for each valve.





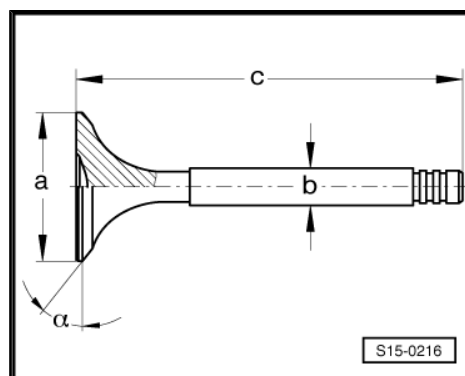
3.7 Valve dimensions



Note

Inlet and exhaust valves must not be reworked. Only lapping-in is permitted.

Dimension		Inlet valve	Exhaust valve
Ø a	mm	35.5	30.0
Ø b	mm	5.98	5.96
c	mm	98.67	98.36
α	°	44° 50'	44° 50'



ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

17 – Lubrication

1 Lubrication system

- ⇒ [“1.1 Assembly overview - pan/oil pump”, page 121](#)
- ⇒ [“1.2 Removing and installing oil pan”, page 125](#)
- ⇒ [“1.3 Removing and installing oil pump”, page 129](#)
- ⇒ [“1.4 Summary of components - oil filter”, page 130](#)
- ⇒ [“1.5 Removing and installing non-return valve”, page 132](#)
- ⇒ [“1.6 Removing and installing engine oil cooler”, page 133](#)
- ⇒ [“1.7 Overview of components - Oil separator”, page 134](#)
- ⇒ [“1.8 Removing and installing oil separator”, page 135](#)
- ⇒ [“1.9 Testing oil pressure and oil pressure switch F1”, page 138](#)

1.1 Assembly overview - pan/oil pump



Note

If considerable quantities of metal swarf or abrasion is found when carrying out an engine repair, this can be subject to damage to the crankshaft and conrod bearings. In order to prevent secondary damage, perform the following tasks after the repair: clean oil channels carefully; change oil injection nozzles, engine oil cooler and oil filter.

Oil spray nozzle and pressure relief valve

⇒ [Fig. “Oil spray nozzle and pressure relief valve”, page 62](#).



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



1 - Screw cap

- ☐ Replace seal if damaged

2 - Oil feed line

- ☐ to exhaust gas turbo-charger

3 - Dipstick

- ☐ Oil level must not exceed the max. marking

4 - Bracket for top auxiliary units

- ☐ with oil filter and engine oil cooler
- ☐ Removing and installing
⇒ ["2.4 Removing and installing bracket for top auxiliary units", page 53](#)

5 - Seal

- ☐ replace if damaged

6 - Guide bushing

7 - Supports

- ☐ for the oil filter
- ☐ Tighten loosened screw connector
⇒ [Fig. "Secure the oil filter screw connector", page 125](#)

8 - Oil filter

- ☐ with gasket rings
- ☐ pay attention to the notes ⇒ [page 121](#)



Note

When removing, make sure that the oil does not penetrate into the generator! Therefore, cover the generator with a clean cloth!

- ☐ slacken and tighten with oil filter wrench - 3417-

- ☐ Pay attention to change intervals:

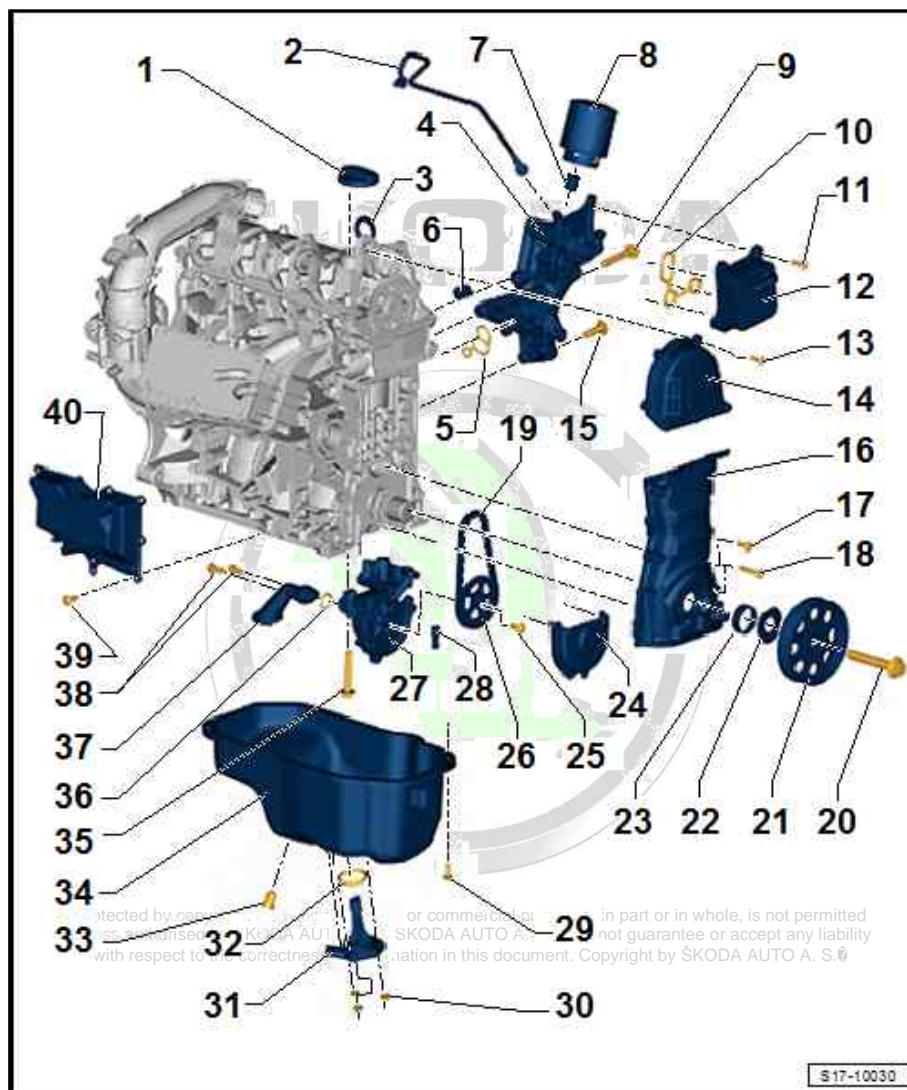
- ◆ ⇒ Maintenance ; Booklet Fabia II
- ◆ ⇒ Maintenance ; Booklet Roomster
- ◆ ⇒ Maintenance ; Booklet Octavia II
- ◆ ⇒ Maintenance ; Booklet Yeti
- ◆ ⇒ Maintenance ; Booklet Rapid NH
- ☐ 20 Nm

9 - Screw

- ☐ 25 Nm

10 - Seal

- ☐ replace if damaged



11 - Screw

- ☐ Replace after removal
- ☐ 8 Nm + 90° further

12 - Engine oil cooler

- ☐ Removing and installing ⇒ [“1.6 Removing and installing engine oil cooler”, page 133](#)

13 - Screw

- ☐ 8 Nm

14 - Top timing case

- ☐ Removing and installing ⇒ [“2.5 Removing and installing the top timing case”, page 105](#)



Caution

Pay attention to tightening process!

SKODA

15 - Screw

- ☐ 25 Nm

16 - Bottom timing case

- ☐ Removing and installing ⇒ [“2.6 Removing and installing the bottom timing case”, page 108](#)

17 - Screw

- ☐ M6x20
- ☐ Replace after removal
- ☐ 5 Nm + torque a further 30°

18 - Screw

- ☐ M6x40
- ☐ Replace after removal
- ☐ 5 Nm + torque a further 30°

19 - Chain

- ☐ Removing and installing ⇒ [“2.4 Removing and installing timing chain and drive chain for oil pump”, page 99](#)
- ☐ for oil pump
- ☐ mark running direction (installed position) before removing

20 - Screw

- ☐ for vibration damper
- ☐ Replace after removal
- ☐ The contact surface of the fixing screw must be free of grease and oil.
- ☐ insert oiled (thread)
- ☐ Tightening torque; slacken and tighten ⇒ [“1.3 Removing and installing vibration damper”, page 38](#)

21 - Vibration damper

- ☐ Removing and installing ⇒ [“1.3 Removing and installing vibration damper”, page 38](#)
- ☐ Contact surfaces must be free of oil and grease
- ☐ Secure belt pulley with counterholder - T30004 (3415)- and bolts - T30004/2 (3415/2)- against turning

22 - Washer

- ☐ diamond coated washer pressed onto the belt pulley
- ☐ replace if damaged

23 - Sealing ring

- ☐ Replace after removal
- ☐ Removing and installing ⇒ [“1.4 Replacing crankshaft sealing ring on the belt pulley side”, page 42](#)



24 - Bottom cover

25 - Screw

- ☐ Replace after removal
- ☐ 20 Nm + 90° further

26 - Sprocket

- ☐ for oil pump drive
- ☐ Contact surfaces must be free of oil and grease
- ☐ Lock chain sprocket with counterholder -T10172-

27 - Oil pump

- ☐ Removing and installing ⇒ [“1.3 Removing and installing oil pump”, page 129](#)
- ☐ must be replaced completely

28 - Non-return valve



Note

- ◆ *As of 20.10.2010, the non-return valve which was installed in the cylinder block at the top and was only accessible after removing the cylinder head, is no longer fitted.*
- ◆ *As of 21.10.2010, the non-return valve is installed in the cylinder block from the oil pan side.*

- ☐ Removing and installing ⇒ [“1.5 Removing and installing non-return valve”, page 132](#)

29 - Screw

- ☐ Slacken and tighten the bolts at the gearbox side with socket insert - T10058-
- ☐ 13 Nm

30 - Screw

- ☐ 10 Nm

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

31 - Oil level and oil temperature sender - G266 -

- ☐ replace if damaged
- ☐ Check ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

32 - Sealing ring

- ☐ replace if damaged

33 - Oil drain plug

- ☐ with captive sealing ring
- ☐ Replace after removal
- ☐ 30 Nm

34 - Oil pan

- ☐ Removing and installing ⇒ [“1.2 Removing and installing oil pan”, page 125](#)

35 - Screw

- ☐ Replace after removal
- ☐ 14 Nm + 90° further

36 - Sealing ring

- ☐ Replace after removal

37 - Suction line

38 - Screw

- ☐ 8 Nm

39 - Screw

- 9 Nm

40 - Oil separator

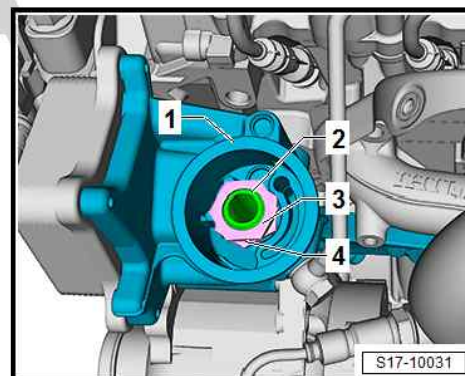
- Removing and installing ⇒ [“1.8 Removing and installing oil separator”, page 135](#)

Secure the oil filter screw connector

If the screw connector -2- was released from the bracket for bottom auxiliariy units, attach it as follows:

For this purpose, use:

- ◆ 2 x hexagon nuts 068 115 723 ⇒ Electronic Catalogue of Original Parts “ETKA” .
- Screw on nuts -3- and -4- onto the screw connector -2- and tighten against each other.
- Retighten the screw connectors -2- by tighten the nuts -3-.
- Undo nuts -3- and -4- in a way that prevents the screw connector from undoing.



Tightening torques

Component	Tightening torque
Screw connector -2-	29 Nm

1.2 Removing and installing oil pan

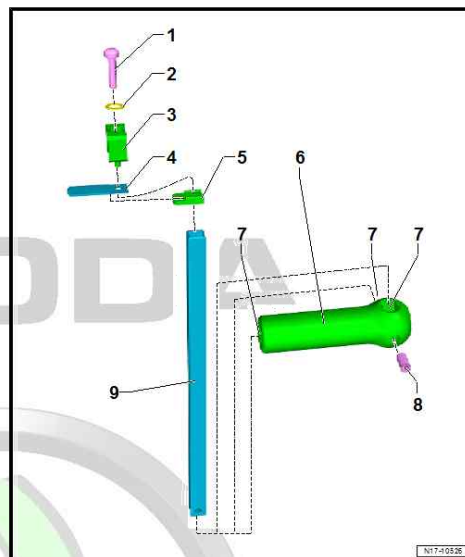
Special tools and workshop equipment required

- ◆ Socket - T10058-
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves
- ◆ Silicone sealant ⇒ Electronic catalogue of original parts (ETKA)
- ◆ Catch pan , e.g. -VAS 6208-
- ◆ Separation tool -T10561-
- ◆ Wedge -T10383/2-



Separation tool -T10561-

- 1 - Screw
- 2 - Washer
- 3 - Mounting bracket
- 4 - Knife
- 5 - Guide
- 6 - Handle
- 7 - Opening for clip attachment
- 8 - Screw
- 9 - Retaining clip



Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .

- Drain engine oil:

- ◆ ⇒ Maintenance ; Booklet Fabia II .
- ◆ ⇒ Maintenance ; Booklet Roomster .
- ◆ ⇒ Maintenance ; Booklet Octavia II .
- ◆ ⇒ Maintenance ; Booklet Yeti .
- ◆ ⇒ Maintenance ; Booklet Rapid NH .

For vehicles Fabia II, Roomster, Rapid NH

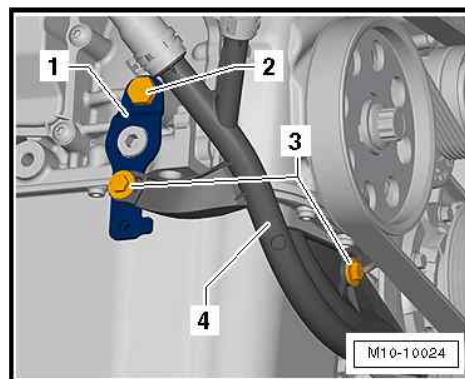
- Remove catalytic converter with pre-exhaust pipe
⇒ [“1.8 Removing and installing catalytic converter with ex-
haust pipe \(Fabia II, Roomster, Rapid NH\)”, page 303](#) .

For the vehicles Octavia II, Yeti

- Remove exhaust pipe -Pos. 9-
⇒ [“1.2 Summary of components - catalyst and attachments,
Octavia II, Yeti”, page 296](#) .

Continued for all vehicles

- Push out screws -3- from the coolant pipe -4-.

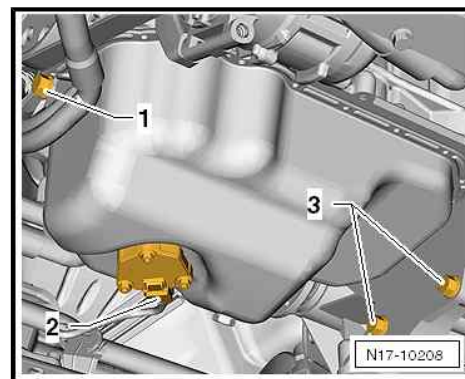


- Unscrew both fixing screws -3- and remove the bottom cover plate.
- Disconnect plug on oil level and oil temperature sender - G266- -2-.
- Loosen screws of the oil pan A crosswise and remove.



Note

Keep two oil pan fixing screws partially screwed in to prevent the oil pan from falling after loosening.



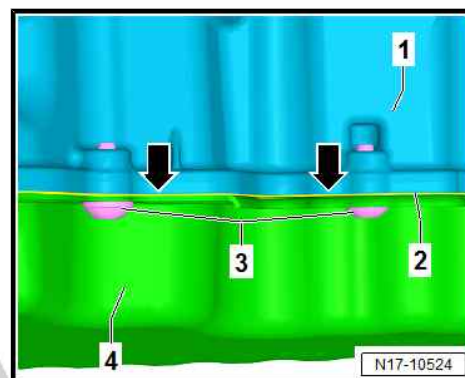
- Disconnect the glued-on oil sump -4- from the cylinder block -1- with the separation tool -T10561- .



Note

The oil sump is sealed by a liquid seal -2- that is highly adhesive when hardened.

- Fit the separation tool -T10561- in the -area of the arrow- between the screws you have already removed -3-.
- Insert the Separation tool -T10561- straight.



ŠKODA



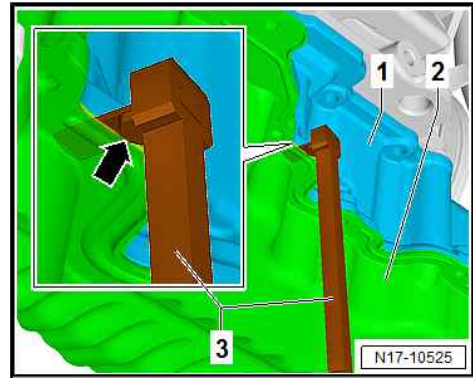
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Drive in the separation tool -T10561- -3- with a hammer up to the stop -arrow-.
- ◆ Do not move the separation tool -T10561- sideways.
- ◆ Do not use the separation tool -T10561- as a lever.
- Complete this procedure, as described at other points, until the oil sump has been detached.

Use the wedge -T10383/2- to loosen the oil sump further at points that you have already loosened.

- Carefully drive in the wedge -T10383/2- with a plastic hammer.
- Only drive in the wedge -T10383/2- as deep as the sealing surface.
- Use the wedge -T10383/2- again at the other points.
- Thereby carefully loosen the top part of the oil sump from the bonding.
- At the point identified by an -arrow-, carefully lever out the oil sump bottom part using a screwdriver.
- Remove two screws that have prevented the oil pan from falling, and remove the oil pan.



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Remove the remaining sealant on the cylinder block and on the oil pan with chemical sealant remover.
- Degrease the sealing surfaces.

Installing



Note

- ◆ *Pay attention to the use by date on sealant.*
- ◆ *The oil pan must be installed within 5 minutes after applying the silicone sealant.*

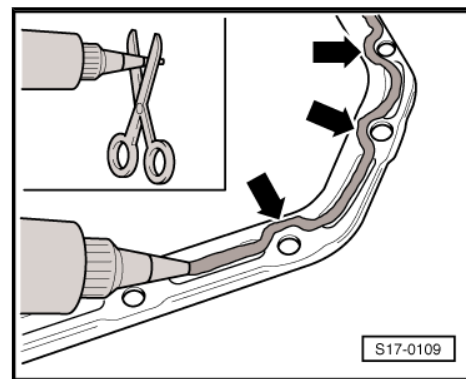
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

- Cut off nozzle tube at the front marking (Ø of nozzle approx. 3 mm).
- Apply silicone sealant to the clean sealing surface of the oil pan, as shown in the illustration. The sealant bead must be:
 - ◆ be 2...3 mm thick
 - ◆ run past the area around the bolt holes on the inside -arrows-



Note

The sealing compound bead must not be thicker, otherwise excessive sealing compound will enter the sump and may block the oil suction pipe strainer.



- Fit sump immediately and lightly tighten all sump securing bolts.
- Tighten the screws of the oil pan to the prescribed tightening torque.
- Tighten the fixing screws of the cover plate on the gearbox.

Further installation occurs in reverse order.



Note

Let sealing compound dry for approx. 30 minutes after installing oil sump. Only then fill with engine oil.

- Top up with engine oil:
 - ◆ ⇒ Maintenance ; Booklet Fabia II .
 - ◆ ⇒ Maintenance ; Booklet Roomster .
 - ◆ ⇒ Maintenance ; Booklet Octavia II .
 - ◆ ⇒ Maintenance ; Booklet Yeti .
 - ◆ ⇒ Maintenance ; Booklet Rapid NH .

Tightening torques

- ◆ Oil pan screws
⇒ [“1.1 Assembly overview - pan/oil pump”, page 121](#)

Component	Tightening torque
Screws of the cover plate on the gearbox	40 Nm

1.3 Removing and installing oil pump

Special tools and workshop equipment required

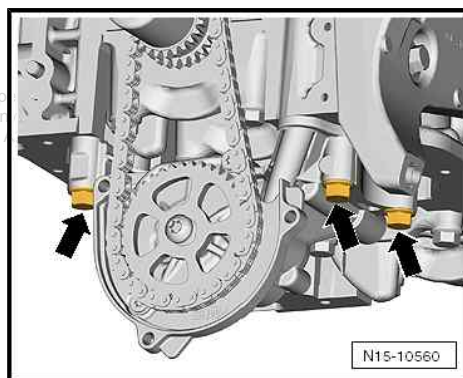
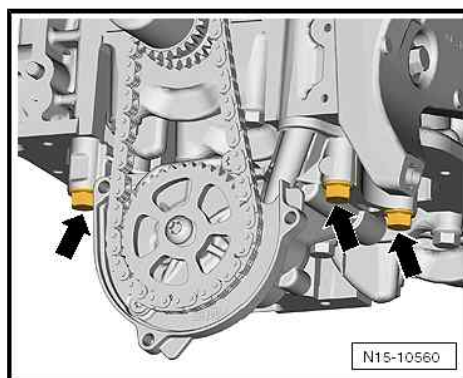
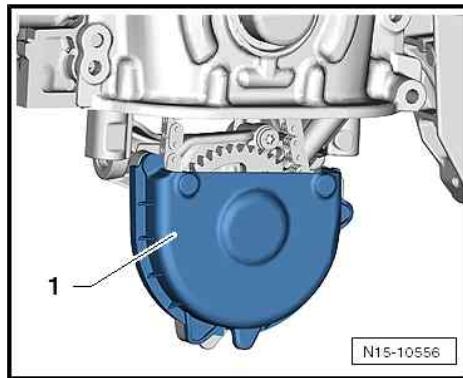
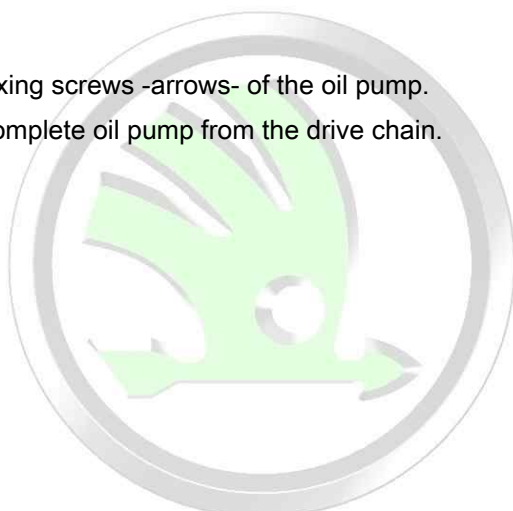
- ◆ Catch pan , e.g. -VAS 6208-
- Removing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#) .



- Pull off the cover -1- from the oil pump.

ŠKODA

- Unscrew the fixing screws -arrows- of the oil pump.
- Remove the complete oil pump from the drive chain.



Installing

- Attach oil pump with chain sprocket to the drive chain and secure with new screws -arrow-.
 - Installing the oil pan
- ⇒ ["1.2 Removing and installing oil pan", page 125](#) .

Tightening torques

- ♦ Screws for oil pump
⇒ ["1.1 Assembly overview - pan/oil pump", page 121](#) .
- ♦ Screws for suction line
⇒ ["1.1 Assembly overview - pan/oil pump", page 121](#) .

1.4 Summary of components - oil filter

1 - Seal

- ☐ replace if damaged

2 - Bushing

3 - Bracket for top auxiliary units

- ☐ Removing and installing
⇒ ["2.4 Removing and installing bracket for top auxiliary units", page 53](#)

4 - Oil filter



Note

Cover the AC generator with a cloth before removing the screw cap for the oil filter.

- ☐ slacken with oil filter wrench - 3417-
- ☐ Pay attention to the installation instructions on the oil filter!
- ☐ with non-return valve
- ☐ 20 Nm

5 - Supports

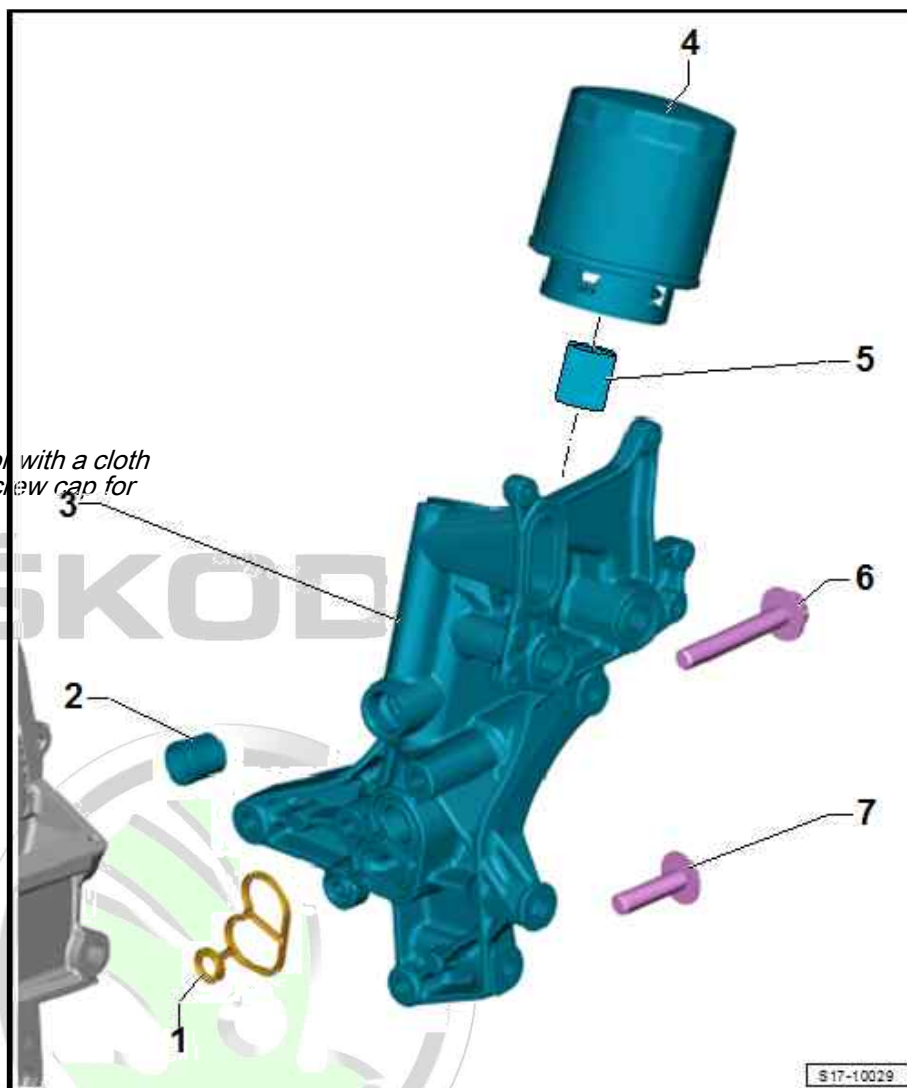
- ☐ for the oil filter
- ☐ Tighten loosened screw connector
⇒ [Fig. "Secure the oil filter screw connector", page 131](#)

6 - Screw

- ☐ 25 Nm

7 - Screw

- ☐ 25 Nm

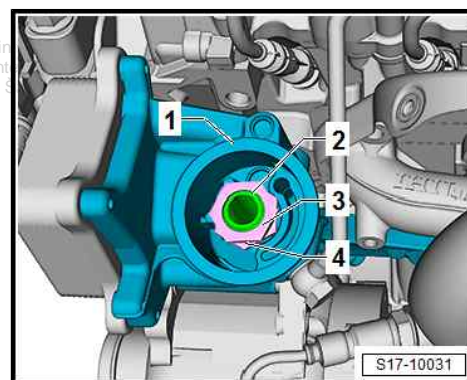


Secure the oil filter screw connector

If the screw connector -2- was released from the bracket for bottom auxiliary units, attach it as follows:

For this purpose, use:

- ◆ 2 x hexagon nuts 068 115 723 ⇒ Electronic Catalogue of Original Parts "ETKA" .
- Screw on nuts -3- and -4- onto the screw connector -2- and tighten against each other.
- Retighten the screw connectors -2- by tighten the nuts -3-.
- Undo nuts -3- and -4- in a way that prevents the screw connector from undoing.



Tightening torques

Component	Tightening torque
Screw connector -2-	29 Nm



1.5 Removing and installing non-return valve

⇒ [“1.5.1 Removing and installing and installing non-return valve up to 20.10.2010”, page 132](#)

⇒ [“1.5.2 Removing and installing and installing non-return valve from 21.10.2010”, page 132](#)



Note

- ◆ As of 20.10.2010, the non-return valve which was installed in the cylinder block at the top and was only accessible after removing the cylinder head, is no longer fitted.
- ◆ As of 21.10.2010, the non-return valve is installed in the cylinder block from the oil pan side.

1.5.1 Removing and installing and installing non-return valve up to 20.10.2010

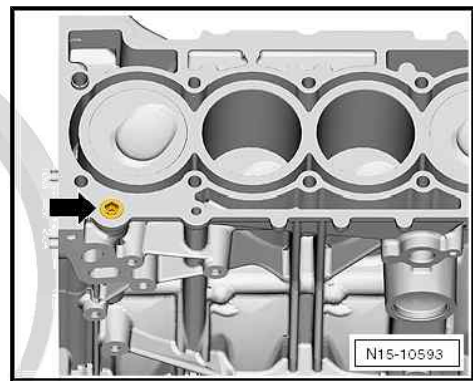
Removing

- Remove cylinder head:
- ◆ Fabia II, Roomster, Rapid NH
⇒ [“1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)”, page 76](#) .
- ◆ Octavia II, Yeti
⇒ [“1.4 Removing and installing cylinder head \(Octavia II, Yeti\)”, page 81](#) .
- Release non-return valve -arrow-.

Installing

Installation is carried out in the reverse order. When installing, observe the following:

- Install cylinder head:
- ◆ Fabia II, Roomster, Rapid NH
⇒ [“1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)”, page 76](#) .
- ◆ Octavia II, Yeti
⇒ [“1.4 Removing and installing cylinder head \(Octavia II, Yeti\)”, page 81](#) .



Tightening torques

Component	Tightening torque
Non-return valve	7 Nm

1.5.2 Removing and installing and installing non-return valve from 21.10.2010

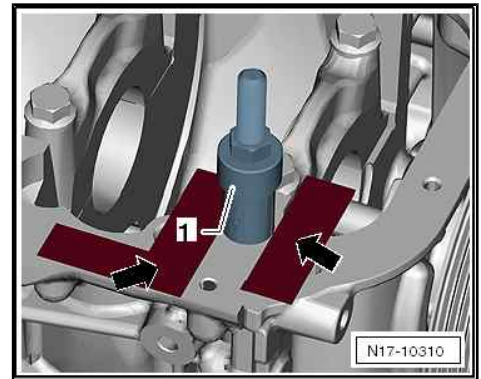
Special tools and workshop equipment required

- ◆ Countersupport - Kukko 22/1-
- ◆ Interior extractor 8 through 12 mm - Kukko 21/01-

Removing

- Removing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#) .

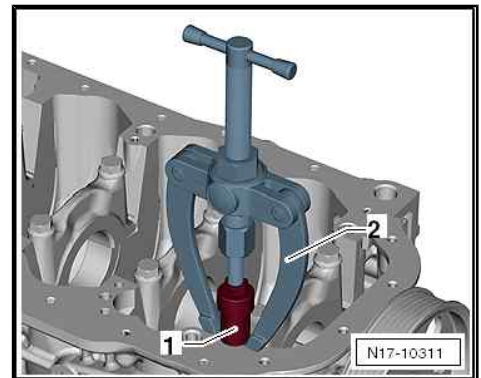
- Remove oil pump
⇒ [“1.3 Removing and installing oil pump”, page 129](#) .
- Clean the sealing surface in the area of the non-return valve and protect it from damage using insulating tape -arrows-.
- Insert the internal extractor - Kukko 21/01- -1- into the non-return valve and draw apart.



- Place the countersupport - Kukko 22/1- -2- onto the sealing surface of the cylinder block. Next, screw them together with the internal extractor Kukko 21/01- -1-.
- Pull non-return valve out of the cylinder block.

Installing

- Remove insulating tape from the cylinder block.
- Moisten the O-rings for the new non-return valve with clean engine oil.
- Insert the valve into the cylinder block so that it is flush with the cylinder block.
- Install oil pump
⇒ [“1.3 Removing and installing oil pump”, page 129](#) .
- Installing the oil pan
⇒ [“1.2 Removing and installing oil pan”, page 125](#) .



1.6 Removing and installing engine oil cooler

Special tools and workshop equipment required

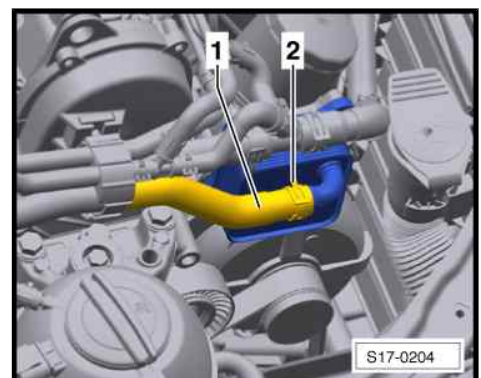
- ◆ Catch pan , e.g. -VAS 6208-
- ◆ Hose binding claw

Removing

- Drain the coolant from the cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .

For vehicles Fabia II, Roomster, Rapid NH

- Open the spring strap clamp with the hose binding claw and detach the coolant hose -1-.





For the vehicles Octavia II, Yeti

- Open the spring strap clamp with the hose binding claw and detach the coolant hose -1-.

Continued for all vehicles

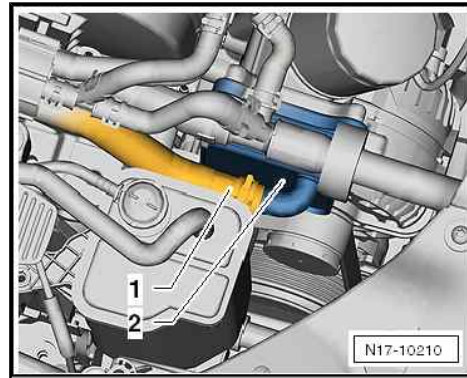
- Release the four fixing screws from the engine oil cooler and remove the engine oil cooler.

Installing



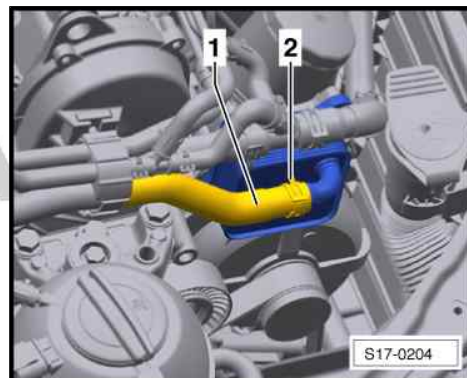
Note

Replace gasket if damaged.



For vehicles Fabia II, Roomster, Rapid NH

- Fit engine oil cooler -2- to bracket and tighten crosswise.
- Place the coolant hose -1- onto the engine cooler connection fitting and attach it with the spring strap clip.

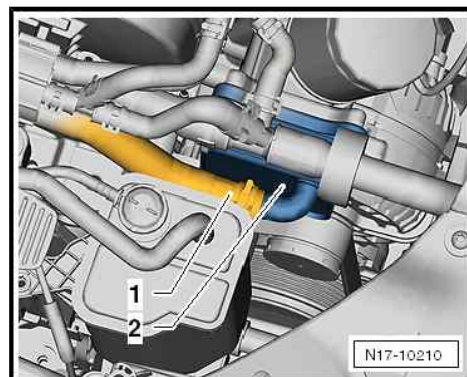


For the vehicles Octavia II, Yeti

- Fit engine oil cooler -2- to bracket and tighten crosswise.
- Place the coolant hose -1- onto the engine cooler connection fitting and attach it with the spring strap clip.

Continued for all vehicles

- Top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#).
- Inspect coolant level in the expansion reservoir, top up with coolant if necessary.



Tightening torques

- ♦ Screws for engine oil cooler
⇒ [“1.1 Assembly overview - pan/oil pump”, page 121](#)

1.7 Overview of components - Oil separator

1 - Screw

- ☐ 9 Nm

2 - Mounting bracket

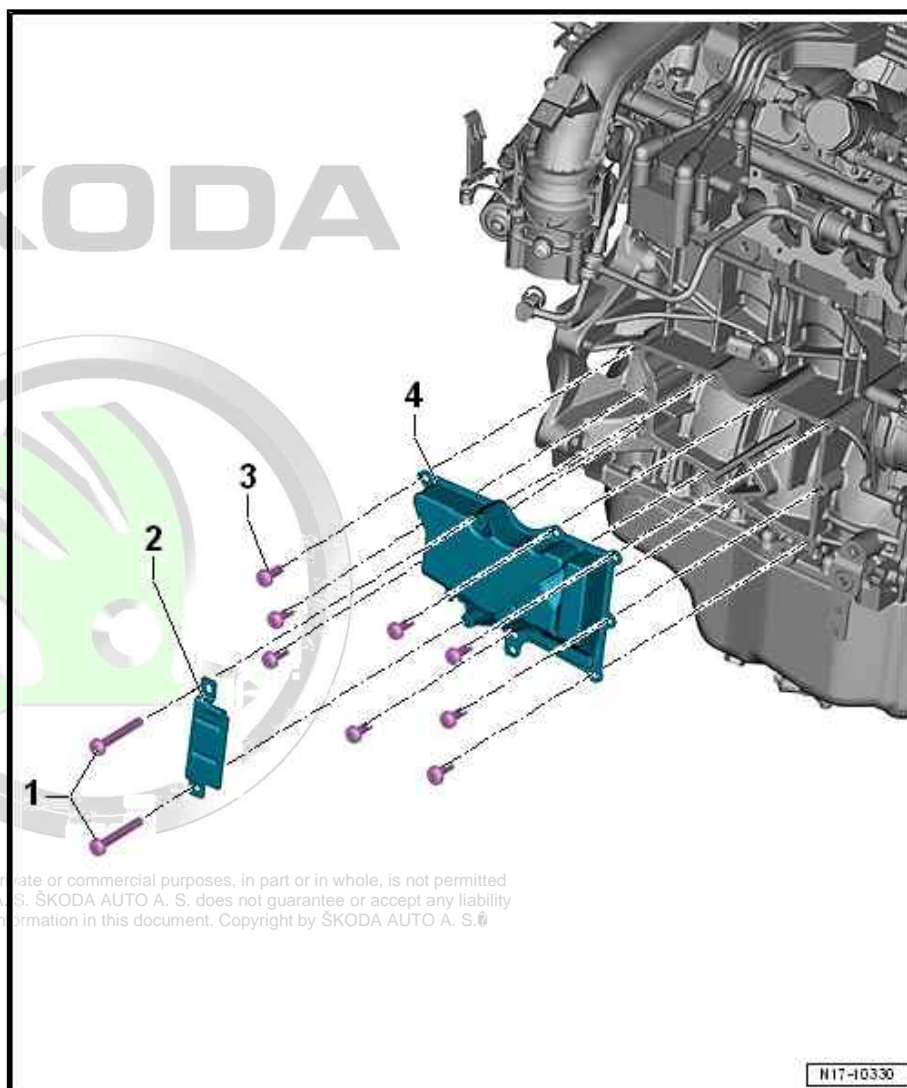
- ☐ for coolant recirculation pump 2 - V50-

3 - Screw

- ☐ Replace after removal
- ☐ 9 Nm

4 - Oil separator

- ☐ Removing and installing
⇒ ["1.8 Removing and installing oil separator",
page 135](#)



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

1.8 Removing and installing oil separator

Special tools and workshop equipment required

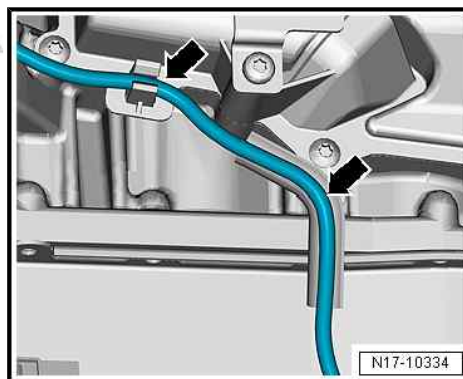
- ◆ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- ◆ Protective goggles and gloves
- ◆ Silicone sealant ⇒ Electronic catalogue of original parts (ET-KA)
- ◆ Pin screw M6x20 (2x)

Removing

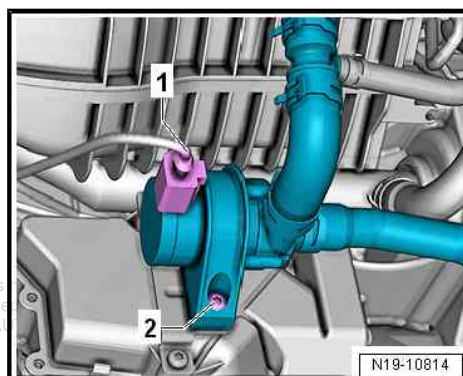
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .



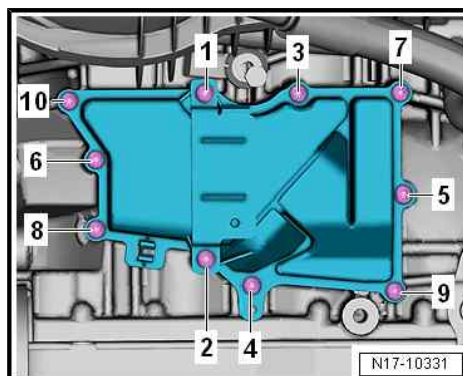
- Unclip wire harness -arrows-.



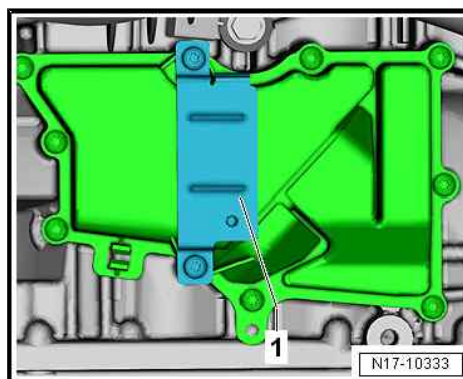
- Disconnect plug connection -1-.
- Unscrew screw -2- and push the coolant recirculation pump 2 - V50- to the side.



- Unscrew and remove screws -1- and -2-.



- Remove bracket for coolant recirculation pump - V50- -1-.



- Unscrew and remove screws -3- to -10-.
- Carefully slacken oil trap.



Caution

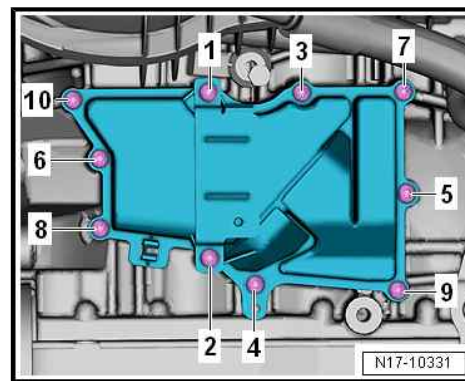
There is a risk of contamination of the lubrication system.

- ◆ *Cover opened engine parts.*



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!



- Remove residual sealant on the cylinder head and on the oil trap using a chemical sealant remover.
- Degrease the sealing surfaces.

Installing



Note

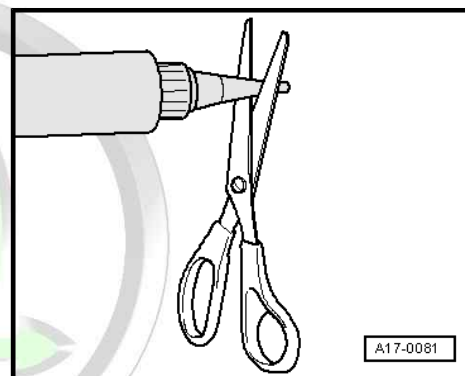
- ◆ *Pay attention to the use by date on sealant.*
- ◆ *After applying the sealant, the oil separator must be installed within 5 minutes.*
- Cut off nozzle on tube at front marking (Ø of nozzle approx. 1.5 mm).



Caution

There is risk of blockage of the lubrication system through excess sealant.

- ◆ *Do not apply a thicker sealant bead than indicated.*

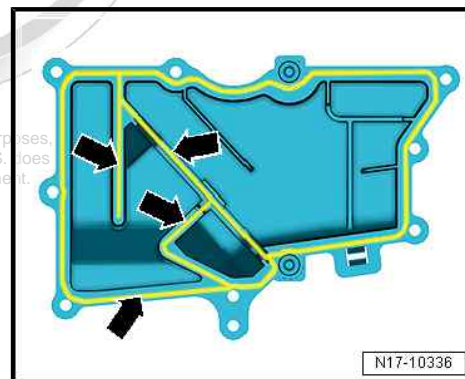


- Apply sealant onto the surface of the oil trap along the recess -arrows-, as shown.
- Thickness of sealant bead: 2 mm.



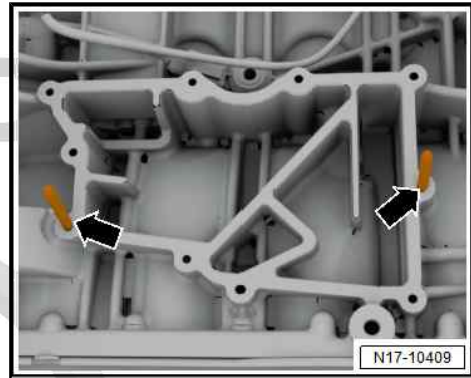
Caution

- *After positioning the oil trap onto the sealing surface of the cylinder block, make sure it does not slide away further.*
- *Do this to prevent sealant from getting into the oil circuit or to prevent leaks in the oil trap.*





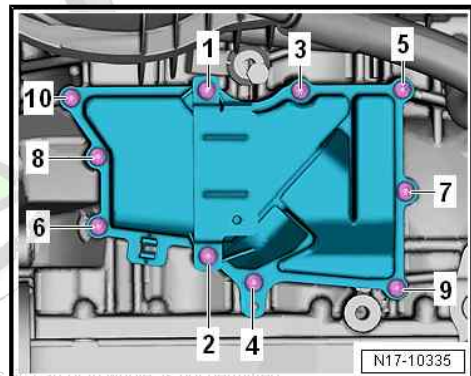
- To guide the oil trap better, screw in two M6x70 screws -arrows- into the holes a few thread turns.
- Fit oil trap and bracket for the coolant recirculation pump - V50- .



- Tighten the screws in the sequence -1- through -10-.

Installation is carried out in the reverse order. When installing, observe the following:

- Install pump for coolant recirculation - V50-
⇒ ["2.4 Removing and installing coolant recirculation pump V50"](#), [page 149](#) .



Caution

- ***After installing the oil trap, the engine may only be operated again after the minimum hardening time of the sealant.***
- ***The sealant is then able to bear the load.***

Protected by copyright. Copying for private or commercial purposes unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of the information in this document. Copyright by ŠKODA AUTO A. S. ©

Tightening torques

- ◆ Screws for oil trap and bracket for coolant recirculation pump 2 - V50-
⇒ ["1.7 Overview of components - Oil separator"](#), [page 134](#) .
- ◆ Screw for coolant recirculation pump 2 - V50- (Fabia II, Roomster, Rapid NH)
⇒ ["2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH"](#), [page 254](#) .
- ◆ Screw for coolant recirculation pump 2 - V50- (Octavia II, Yeti)
⇒ ["2.2 Summary of components - charge-air system, Octavia II, Yeti"](#), [page 255](#) .

1.9 Testing oil pressure and oil pressure switch - F1-

Special tools and workshop equipment required

- ◆ Oil pressure tester , e.g. -V.A.G 1342-
- ◆ Voltage tester , e. g. -V.A.G 1527 B-
- ◆ Auxiliary measuring set, , e. g. -V.A.G 1594 C-

Conditions

- Coolant temperature at least 80 °C (radiator fan must have run at least once).
- Engine oil level o.k., test:
 - ◆ ⇒ Maintenance ; Booklet Fabia II .
 - ◆ ⇒ Maintenance ; Booklet Roomster .
 - ◆ ⇒ Maintenance ; Booklet Octavia II .

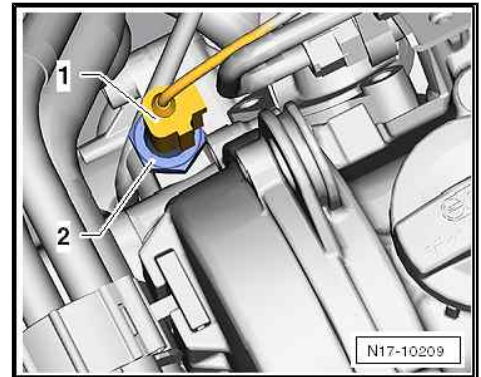
- ◆ ⇒ Maintenance ; Booklet Yeti .
- ◆ ⇒ Maintenance ; Booklet Rapid NH .

i Note

Functional test and repair of the visual and acoustic oil pressure display ⇒ Current flow diagrams, Electrical fault finding and Fitting locations, ⇒ Vehicle diagnostic tester.

Test sequence

- Disconnect plug -1- and remove the oil pressure switch -2-.



- Screw oil pressure switch into the test equipment.
- Screw tester into cylinder head in place of oil pressure switch.
- Connect brown wire of tester to earth (-).
- Connect voltage tester to battery positive and to oil pressure switch.
- The LED must not light up.

If the LED lights up:

- Replace oil pressure switch - F1- .

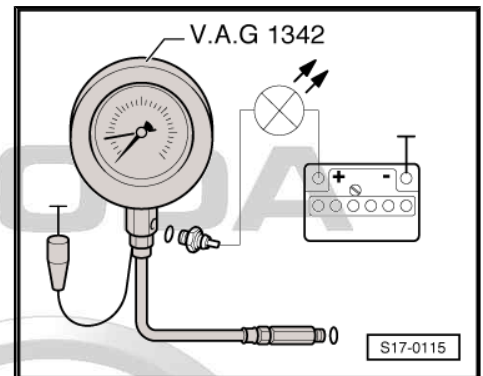
If the LED does not light up:

- Start engine and increase engine speed.
- The LED must light up at an oil overpressure of 0.03...0.07 MPa (0.3...0.7 bar), if not replace oil pressure switch.
- Increase engine speed further.
- At 2000 rpm and an oil temperature of 80 °C the oil overpressure should be at least 0.2 MPa (2.0 bar).

At a higher engine speed the oil overpressure must not be greater than 0.7 MPa (7 bar).

Tightening torques

- ◆ Oil pressure switch
⇒ ["1.1 Summary of components - cylinder head", page 63](#) .





19 – Cooling

1 Cooling system

⇒ [“1.1 Connection diagram for coolant hoses \(Fabia II, Roomster, Rapid NH\)”, page 140](#)

⇒ [“1.2 Connection diagram for coolant hoses \(Octavia II, Yeti\)”, page 141](#)

⇒ [“1.3 Draining and filling coolant”, page 142](#)

1.1 Connection diagram for coolant hoses (Fabia II, Roomster, Rapid NH)



Note

- ◆ *The radiator and the charge air cooler are separate parts.*
- ◆ *The radiator is fitted onto the charge air cooler.*
- ◆ *The radiator and the charge air cooler are removed and installed together*
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#) .

ŠKODA



1 - expansion reservoir

**2 - Coolant recirculation pump
- V50-**

- ❑ Removing and installing
⇒ [“2.4 Removing and installing coolant recirculation pump V50”, page 149](#)

3 - Charge air cooler

- ❑ in the intake manifold
⇒ [“2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH”, page 254](#)

4 - Coolant regulator housing

5 - Heat exchanger for heating

6 - Choke

- ❑ in the coolant hose, not visible from the outside

7 - Radiator

- ❑ Removing and installing
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#)

8 - Charge air cooler

9 - Cylinder head/cylinder block

- ❑ fill with fresh coolant after replacing

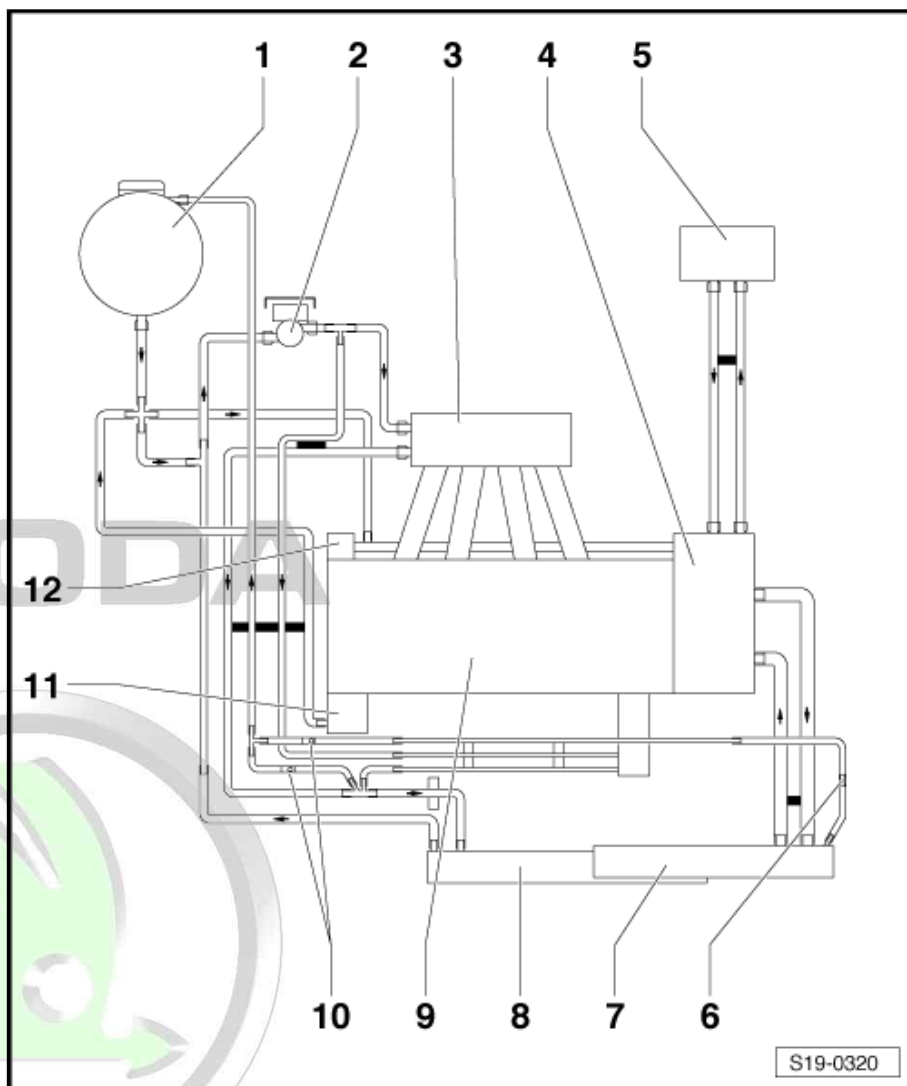
10 - Non-return valve

- ❑ in the coolant hose, not visible from the outside
- ❑ determine the position setting by touching
- ❑ where necessary, replace with the coolant hose

11 - Engine oil cooler

12 - Coolant pump

- ❑ Removing and installing ⇒ [“2.3 Removing and installing coolant pump”, page 148](#)



1.2 Connection diagram for coolant hoses (Octavia II, Yeti)



Note

- ◆ This engine is fitted with a radiator combination of engine and low temperature radiators for charge air system.
- ◆ Engine and low temperature radiators are arranged as one component part.



1 - expansion reservoir

2 - Coolant recirculation pump - V50-

- ☐ Removing and installing
⇒ [“2.4 Removing and installing coolant recirculation pump V50”](#), page 149

3 - Coolant pump

- ☐ Removing and installing
⇒ [“2.3 Removing and installing coolant pump”](#), page 148

4 - Charge air cooler

- ☐ in the intake manifold
⇒ [“2.2 Summary of components - charge-air system, Octavia II, Yeti”](#), page 255

5 - Heat exchanger for heating

6 - Coolant regulator housing

7 - Non-return valve

- ☐ in the coolant hose, not visible from the outside
- ☐ determine the position setting by touching
- ☐ where necessary, replace with the coolant hose

8 - Choke

- ☐ in the coolant hose, not visible from the outside

9 - Radiator

- ☐ Removing and installing
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”](#), page 158

10 - Exhaust gas turbocharger

- ☐ Removing and installing ⇒ [“1.2 Removing and installing exhaust gas turbocharger”](#), page 248

11 - Low temperature radiator for charge air system

- ☐ Engine and low temperature radiators are arranged as one component part

12 - Cylinder head and cylinder block

- ☐ fill with fresh coolant after replacing

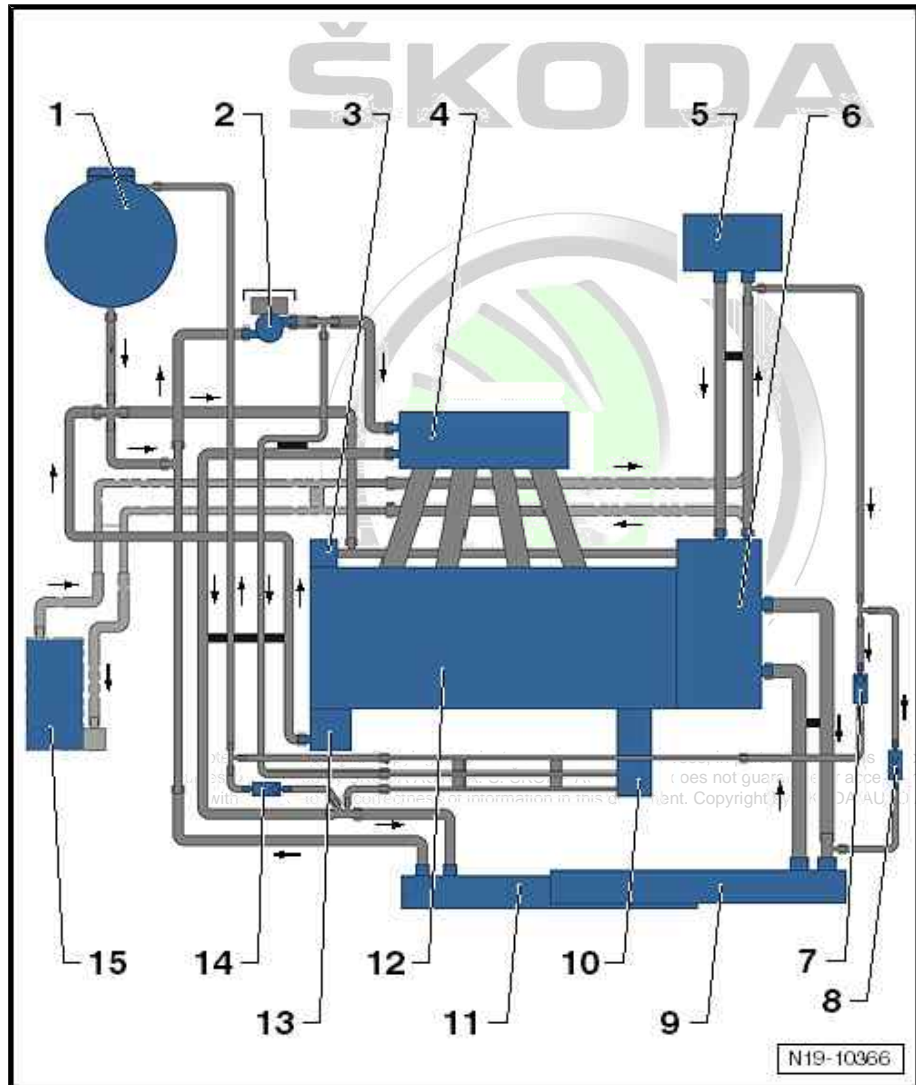
13 - Engine oil cooler

14 - Non-return valve

- ☐ in the coolant hose, not visible from the outside
- ☐ determine the position setting by touching
- ☐ where necessary, replace with the coolant hose

15 - Auxiliary heating

- ☐ only for vehicles with special equipment



1.3 Draining and filling coolant

Special tools and workshop equipment required

- ◆ Catch pan , e.g. - VAS 6208-
- ◆ Pliers for spring-type clips
- ◆ Refractometer
- ◆ Cooling system charge unit - VAS 6096-
- ◆ The drained coolant must not be re-used.
- ◆ Collect and dispose of drained coolant in a container.
- ◆ Observe the disposal instructions.



WARNING

Hot steam may escape when the coolant expansion reservoir is opened. Wear safety goggles and safety clothing to avoid eye injuries and scalding. Cover the cap with a cloth and open carefully.

- Open compensation bottle.
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Position drip tray e.g. - VAS 6208- under the engine.



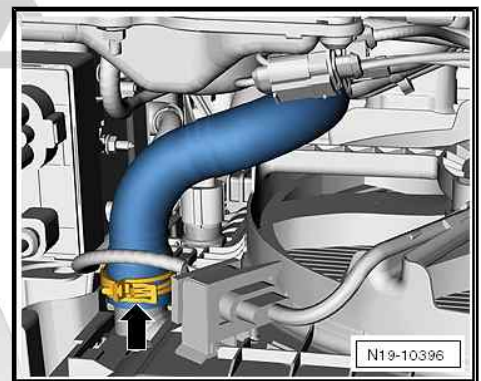
Note

- ◆ Depending on the components which must be removed
⇒ "1.1 Connection diagram for coolant hoses (Fabia II, Roomster, Rapid NH)", page 140 , the coolant from the cooling system, from the charge air cooling system or from both cooling systems must be drained.
- ◆ If the coolant must be replaced, it should be drained from both cooling systems.

Drain the coolant from the cooling system

For vehicles Fabia II, Roomster, Rapid NH

- Open spring strap clamp -arrow- and pull off the bottom coolant hose at the engine radiator connection.

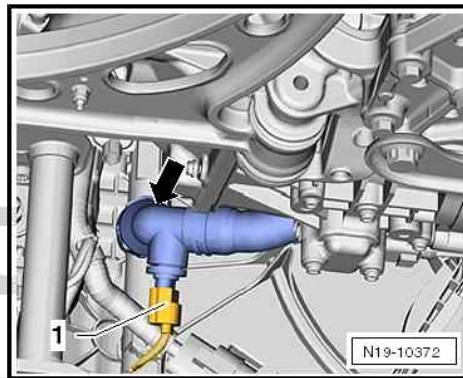




For the vehicles Octavia II, Yeti

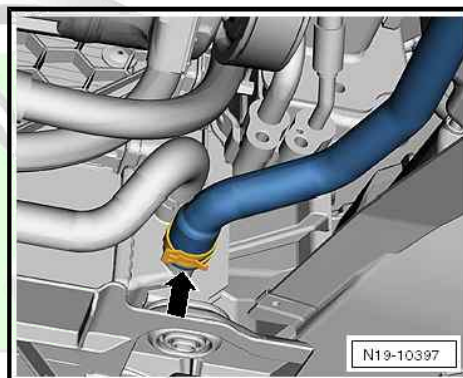
- Disconnect plug -1- from coolant temperature sender at radiator outlet -G83- .
- Open spring strap clamp -arrow- and pull off the coolant hose from the bottom radiator connection.

Drain the coolant from the charge air cooling system



For vehicles Fabia II, Roomster, Rapid NH

- Open spring strap clamp -arrow- and pull off the bottom coolant hose at the connection of the additional radiator for the charge air system.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

For the vehicles Octavia II, Yeti

- Separate the coolant hose (quick coupling) -arrow- on the bottom connection fitting of the additional radiator for coolant of charge air system.

Continued for all vehicles



Note

Please observe all disposal instructions!

Top up and bleed cooling system.

The drained coolant must not be re-used.

Select the appropriate coolant additive from the ⇒ ETKA - Electronic catalogue of original parts .

- In a clean reservoir, mix distilled water and coolant additive in the specified mixing ratio:
 - ◆ ⇒ Maintenance ; Booklet Fabia II .
 - ◆ ⇒ Maintenance ; Booklet Roomster .
 - ◆ ⇒ Maintenance ; Booklet Octavia II .
 - ◆ ⇒ Maintenance ; Booklet Yeti .
 - ◆ ⇒ Maintenance ; Booklet Rapid NH .
- Reposition the removed coolant hose onto the relevant support.

For the vehicles Octavia II, Yeti

- Connect coolant temperature sender - G83 - .

Continued for all vehicles

- Install the noise insulation ⇒ Body Work; Rep. gr. 50 .

With cooling system charge unit -VAS 6096-

- Screw adapter for cooling system tester - V.A.G 1274/8- onto expansion tank.
- Fill coolant circuit using cooling system charge unit - VAS 6096- Owner's Manual for cooling system charge unit VAS 6096.
- Fill up coolant up to Max. marking on the expansion reservoir.

Without cooling system charge unit -VAS 6096-



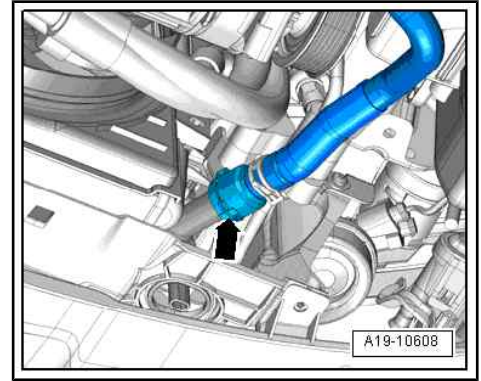
Caution

In order to secure the refrigerating capacity of the charge air cooling system, the following work steps must absolutely be observed.

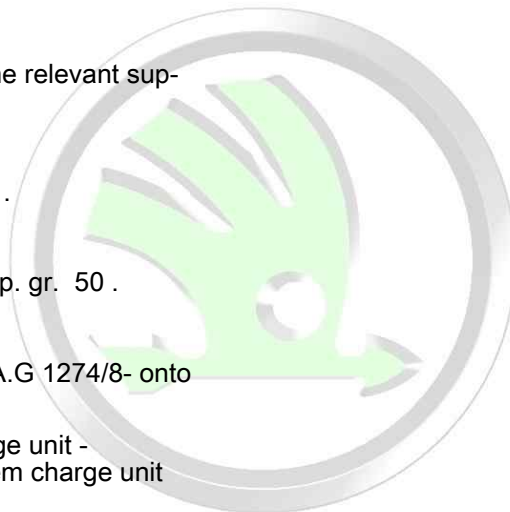
- Fill up the coolant slowly up to the top marking of the criss-crossed field (max.) on the expansion reservoir.

Continued for all vehicles

- Fit cooling system tester - V.A.G 1274 B- onto expansion tank and apply pressure of 0.15 MPa (1.5 bar) to cooling system
⇒ ["3.7.2 Checking with the cooling system testing device V.A.G 1274 B", page 163](#) .



ŠKODA



Reproduction by copyright for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ®



Note

Applying pressure to the cooling system will eliminate any air bubbles.

- Fill with coolant up to "MAX." marking on expansion tank if necessary.
- Seal expansion reservoir.
- Switch off the air-conditioning system and the heating.

Vehicles without auxiliary heating.

- Start the engine and maintain the engine speed for about 3 minutes at approx. 2000 r.p.m.
- Run engine until radiator fan - V7- starts.

Vehicles with auxiliary heating



Caution

The auxiliary heating must only be switched on, if the refrigerant circuit is filled up -as described below-.

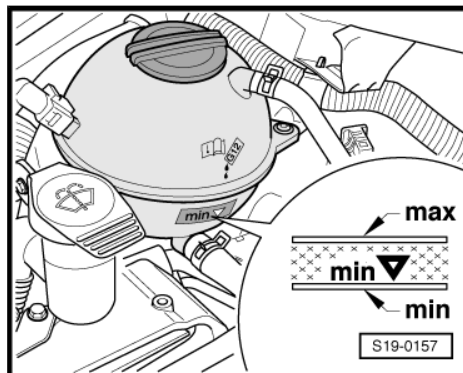
- Connect diagnostic unit -VAS 5051- .
- Start the engine and maintain the engine revolutions for about 3 minutes at about 2000 r.p.m.
- On the display press consecutively the buttons for "Vehicle self-diagnosis", "18 - Auxiliary heating system" and "03 - Actuator diagnosis".
- Press the right arrow on the display repeatedly until the coolant shut-off valve of the heating system - N279- is shown.
- Perform self-diagnosis of the coolant shut-off valve of heating system -N279- and maintain the engine speed at approx. 2000 rpm for about 1 minute.

Continued for all vehicles



WARNING

Hot steam may escape when the expansion reservoir is opened. Wear safety goggles and safety clothing to avoid eye injuries and scalding. Cover the cap with a cloth and open carefully.



- Inspect coolant level, top up with coolant if necessary. When engine is at operating temperature the coolant level must be at the "MAX" marking, when engine is cold between the "MIN" and the "MAX" markings.

2 Coolant pump and map-controlled engine cooling

⇒ [“2.1 Assembly overview - thermostat”, page 147](#)

⇒ [“2.2 Removing and installing belt pulley for coolant pump”, page 147](#)

⇒ [“2.3 Removing and installing coolant pump”, page 148](#)

⇒ [“2.4 Removing and installing coolant recirculation pump V50”, page 149](#)

2.1 Assembly overview - thermostat

1 - Cylinder head

2 - O-ring

❑ Replace after removal

3 - Coolant pipe

❑ Note recess -arrow- for fixing the position for the “retaining clip” -Pos. 5-

4 - O-ring

❑ Replace after removal

5 - Retaining clip

❑ Check for secure seating

6 - Screw

❑ 11 Nm

7 - Coolant regulator housing

8 - Seal

❑ Replace after removal

9 - Coolant temperature sender - G62-

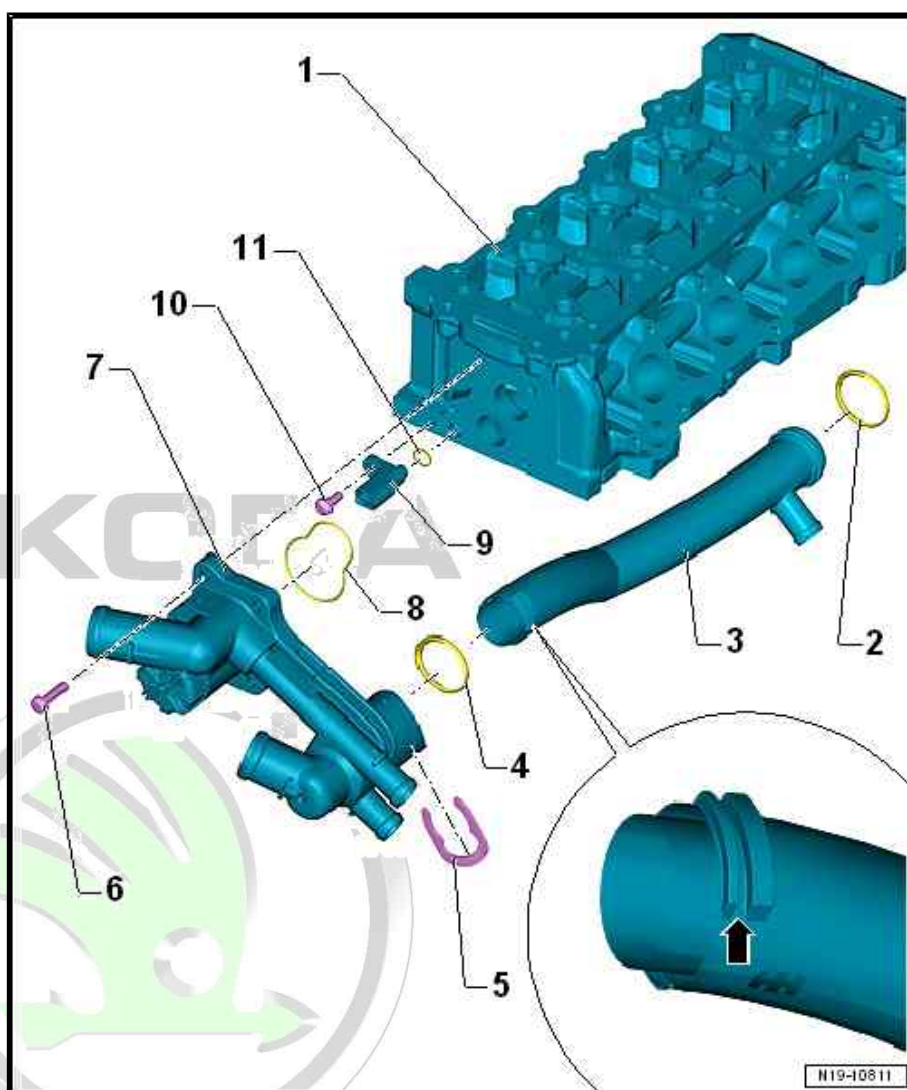
❑ before removing, reduce pressure in cooling system if necessary

10 - Screw

❑ 10 Nm

11 - O-ring

❑ Replace after removal



2.2 Removing and installing belt pulley for coolant pump

Special tools and workshop equipment required

- ◆ Wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)-

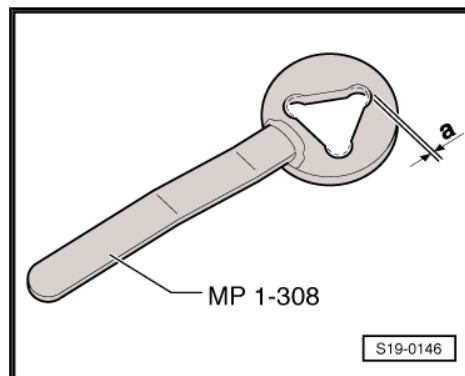


Adjust the wrench for the water pump and power-assisted steering - MP 1-308- accordingly

- Because of modified fixing screws for the belt pulley of the coolant pump, the three curvatures must be filed open:
 - a- at least 1 mm

Removing

- Remove V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#) .

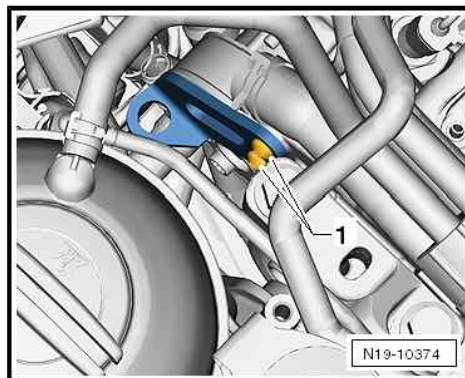


- Release screws -arrows- and remove holder from timing case.

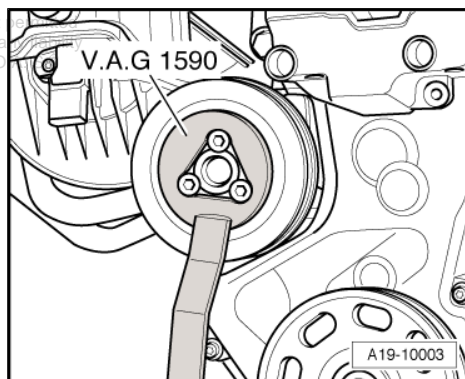


Note

The bracket at the timing case only serves as transport security of the engine before the first installation and must not be refitted.



- Release the screws for the belt pulley for coolant pump, to do so counterhold with wrench for the water pump and power-assisted steering - MP 1-308 (V.A.G 1590)- .



Installing

Installation is carried out in the reverse order.

Tightening torques

- ◆ Screws for the belt pulley for coolant pump
⇒ ["1.1 Assembly overview - V-ribbed belt drive", page 34](#) .

2.3 Removing and installing coolant pump

Special tools and workshop equipment required

- ◆ Catch pan , e.g. -VAS 6208-

Removing



Note

- ◆ *The integrated gasket of the coolant pump must not be separated from the coolant pump.*
- ◆ *If damage or leak present, replace the coolant pump with gasket completely.*
- Drain the coolant from the cooling system
⇒ ["1.3 Draining and filling coolant", page 142](#) .

- Remove belt pulley for control pump
⇒ [“2.2 Removing and installing belt pulley for coolant pump”, page 147](#) .

For vehicles with disconnectable coolant pump

- Disconnect the vacuum line -1- of the solenoid valve for coolant circuit - N492- from the coolant pump.

Continued for all vehicles

- Release screws -arrows- and remove coolant pump.

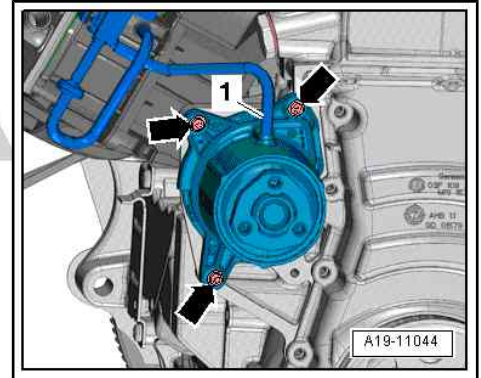
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- Install belt pulley for coolant pump
⇒ [“2.2 Removing and installing belt pulley for coolant pump”, page 147](#) .
- Top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .

Tightening torques

- ◆ Fixing screws of the coolant pump
⇒ [“1.1 Assembly overview - V-ribbed belt drive”, page 34](#) .



2.4 Removing and installing coolant recirculation pump - V50-

Special tools and workshop equipment required

- ◆ Hose clamps up to \varnothing 25 mm - MP7-602 (3094) - poses, in part or in whole, is not permitted unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability for any damage or loss of information in this document. Copyright by SKODA AUTO A. S. ©
- ◆ Pliers for spring-type clips
- ◆ Catch pan , e.g. -VAS 6208-

Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Disconnect plug connection -1-.
- Release screw -3- and remove coolant recirculation pump - V50- from bracket.
- Place a catch pan - VAS 6208- under the engine.
- Pinch off coolant hoses -2- with hose clamps - MP7-602 (3094)- and detach the hoses from the coolant recirculation pump - V50- .

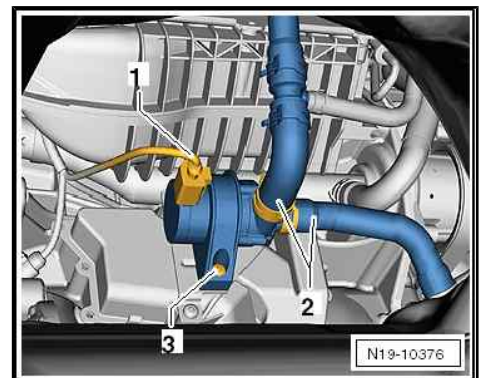
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- Inspect coolant level, if necessary top up cooling system and bleed ⇒ [“1.3 Draining and filling coolant”, page 142](#) .

Tightening torques

- ◆ Screw for coolant recirculation pump - V50- (Fabia II, Roomster, Rapid NH)
⇒ [“2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH”, page 254](#) .
- ◆ Screw for coolant recirculation pump - V50- (Octavia II, Yeti)
⇒ [“2.2 Summary of components - charge-air system, Octavia II, Yeti”, page 255](#) .





3 Radiator and radiator fan

⇒ [“3.1 Overview of components - Parts of the cooling system fitted to the body, Fabia II, Roomster, Rapid NH”, page 150](#)

⇒ [“3.2 Summary of components - Parts of the cooling system fitted to body, Octavia II, Yeti”, page 153](#)

⇒ [“3.3 Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH”, page 156](#)

⇒ [“3.4 Removing and installing fan shroud, Octavia II, Yeti”, page 157](#)

⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#)

⇒ [“3.6 Removing and installing radiator \(Octavia II, Yeti\)”, page 160](#)

⇒ [“3.7 Check cooling system for leaks”, page 162](#)

3.1 Overview of components - Parts of the cooling system fitted to the body, Fabia II, Roomster, Rapid NH



Note

- ◆ *The radiator and the charge air cooler are separate parts.*
- ◆ *The radiator is fitted onto the charge air cooler.*
- ◆ *The radiator and the charge air cooler are removed and installed together*
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#).

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1 - Radiator

- ☐ Removing and installing
⇒ ["3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)", page 158](#)
- ☐ After replacing, fill entire system with fresh coolant.

2 - Coolant hose

- ☐ to exhaust gas turbo-charger

3 - Coolant hose

- ☐ to radiator for charge-air system

4 - Coolant hose

- ☐ to exhaust gas turbo-charger

5 - Coolant hose

- ☐ to charge-air cooler in intake manifold

6 - The fan ring

7 - Coolant hose

- ☐ to coolant pipe below intake manifold

8 - Coolant hose

- ☐ to engine oil cooler

9 - expansion reservoir

- ☐ with coolant shortage warning light sender - G32-

- ☐ Check the cooling system for tightness ⇒ ["3.7 Check cooling system for leaks", page 162](#)

10 - Connector

11 - Screw cap

- ☐ Check the overpressure valve in the screw cap ⇒ ["3.7 Check cooling system for leaks", page 162](#)

12 - Screw

- ☐ 5 Nm

13 - Plastic inserts

- ☐ for fixing screws

14 - Mounting bracket

15 - Coolant hose

- ☐ at coolant recirculation pump - V50-

16 - Radiator fan - V7-

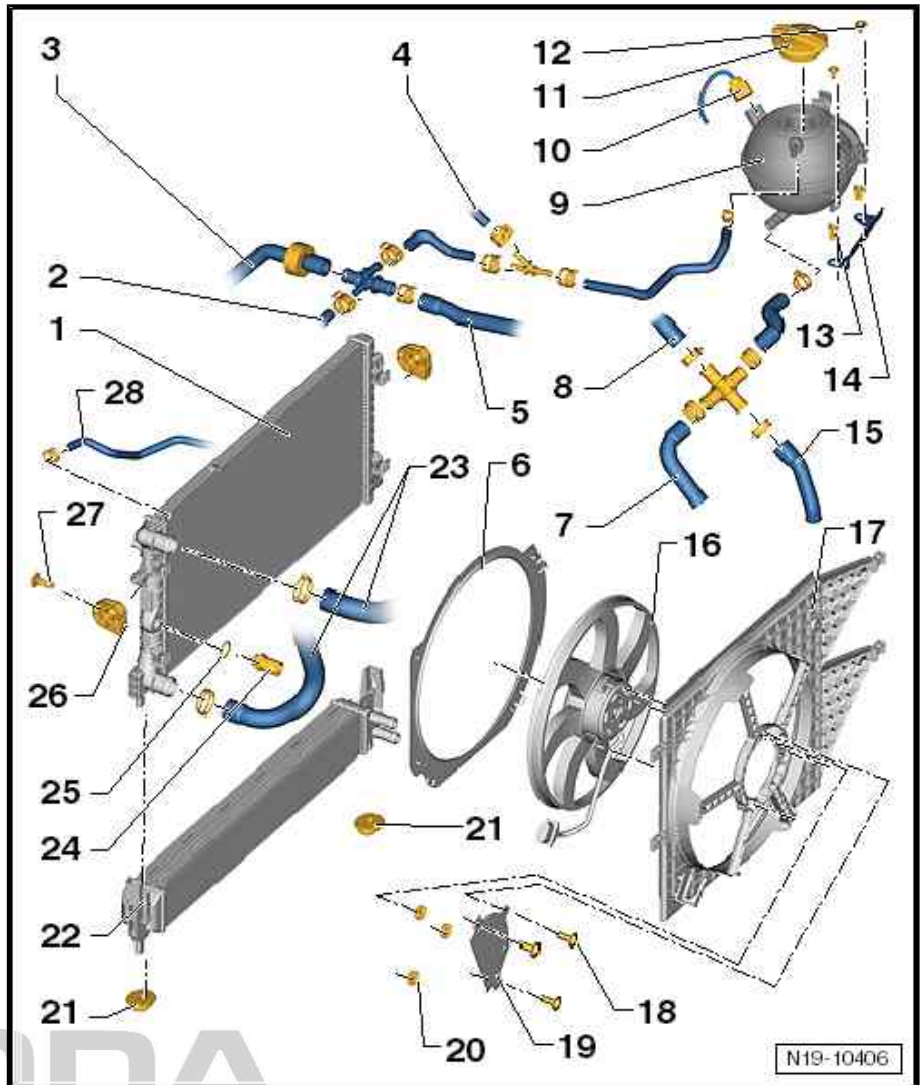
17 - Fan shroud

- ☐ Removing and installing
⇒ ["3.3 Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH", page 156](#)

18 - Screw

- ☐ installed until 05/10

- ☐ 2 Nm



**19 - Heat shield**

- ☐ installed until 05/10

20 - Nut

- ☐ 8 Nm

21 - Bottom radiator bearing**22 - Charge air cooler**

- ☐ Removing and installing
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#)

23 - Coolant hose

- ☐ on coolant thermostat housing

24 - Thermoswitch for radiator fan - F18-

- ☐ for fan
- ☐ 35 Nm

25 - O-ring

- ☐ replace if damaged

26 - Top radiator bearing**27 - Screw**

- ☐ 5 Nm

28 - Coolant hose

- ☐ to the expansion reservoir

ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

3.2 Summary of components - Parts of the cooling system fitted to body, Octavia II, Yeti

⇒ [“3.2.1 Summary of components - radiator with one fan”, page 153](#)

⇒ [“3.2.2 Summary of components - radiator with two fans”, page 155](#)

3.2.1 Summary of components - radiator with one fan



Note

- ◆ This engine is fitted with a radiator combination of engine and low temperature radiators for charge air system.
- ◆ Engine and low temperature radiators are arranged as one component part.

1 - Radiator with low temperature radiator for charge air system

- ☐ Removing and installing
⇒ [“3.6 Removing and installing radiator \(Octavia II, Yeti\)”, page 160](#)
- ☐ After replacing, fill with fresh coolant

2 - Coolant hose

- ☐ to exhaust gas turbo-charger

3 - Coolant hose

- ☐ to low temperature radiator for charge air system

4 - Coolant hose

- ☐ to exhaust gas turbo-charger

5 - Coolant hose

- ☐ to charge-air cooler in intake manifold

6 - Radiator fan - V7-

7 - Coolant hose

- ☐ to coolant pipe below intake manifold

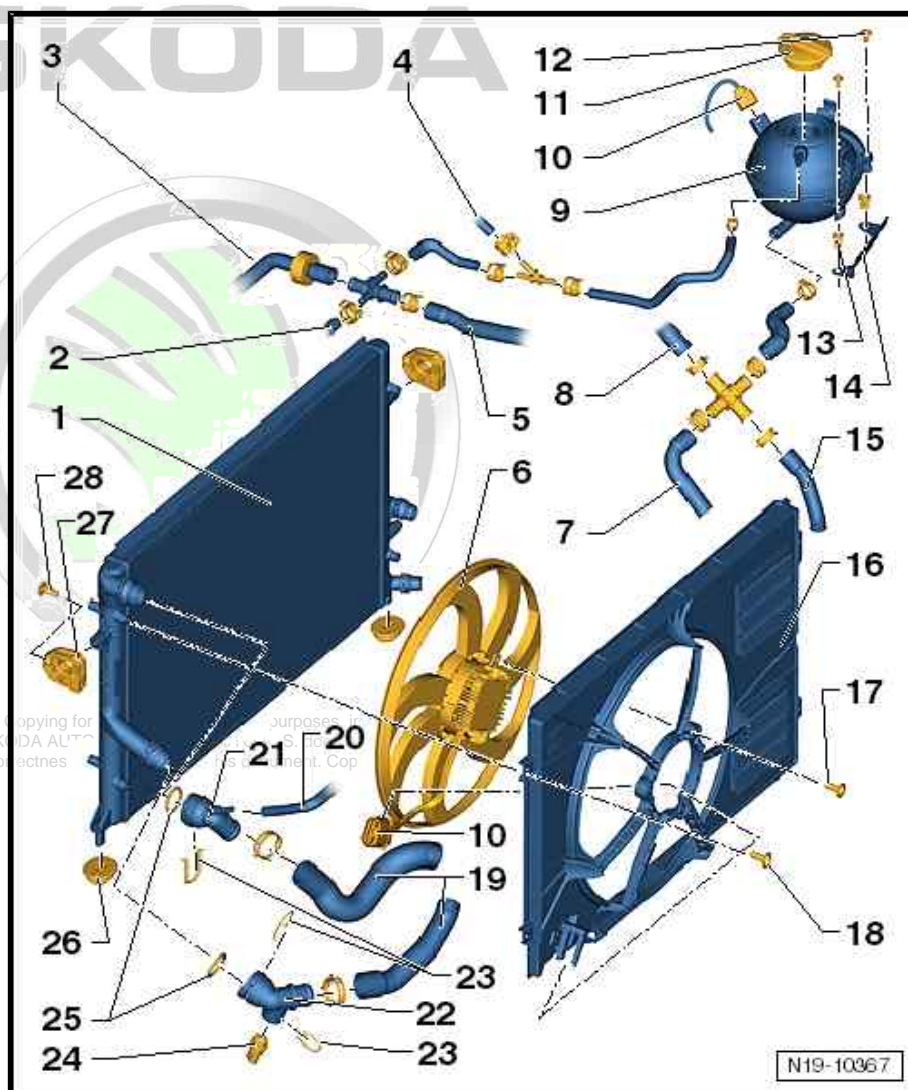
8 - Coolant hose

- ☐ to engine oil cooler

9 - expansion reservoir

- ☐ with coolant shortage warning light sender - G32-

- ☐ Check the cooling system for tightness ⇒ [“3.7 Check cooling system for leaks”, page 162](#)



**10 - Connector****11 - Screw cap**

- ☐ Check the overpressure valve in the screw cap ⇒ [“3.7 Check cooling system for leaks”, page 162](#)

12 - Screw

- ☐ 5 Nm

13 - Plastic inserts

- ☐ for fixing screws

14 - Mounting bracket**15 - Coolant hose**

- ☐ at coolant recirculation pump - V50-

16 - Fan shroud

- ☐ Removing and installing ⇒ [“3.4 Removing and installing fan shroud, Octavia II, Yeti”, page 157](#)
- ☐ different versions of the fan shrouds are mounted ⇒ Electronic Catalogue of Original Parts

17 - Screw

- ☐ 5 Nm

18 - Screw

- ☐ 5 Nm

19 - Coolant hose

- ☐ on coolant thermostat housing

20 - Coolant hose

- ☐ to heat exchanger for heating

21 - Connection fitting

- ☐ for top coolant hose

22 - Connection fitting

- ☐ for bottom coolant hose

23 - Retaining clip

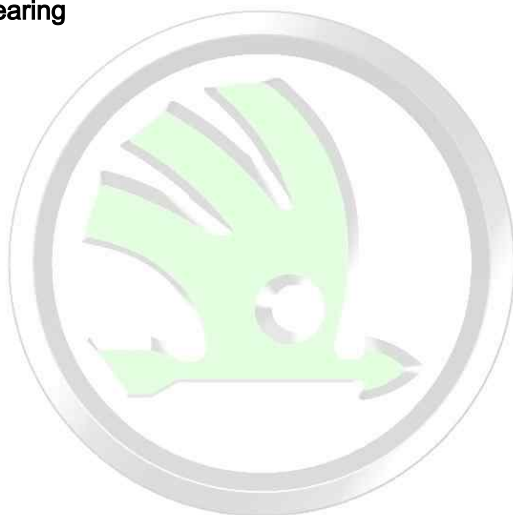
- ☐ Check for secure seating

24 - Coolant temperature sender at radiator outlet - G83-**25 - O-ring**

- ☐ replace if damaged

26 - Bottom radiator bearing**27 - Top radiator bearing****28 - Screw**

- ☐ 5 Nm



3.2.2 Summary of components - radiator with two fans



Note

- ◆ This engine is fitted with a radiator combination of engine and low temperature radiators for charge air system.
- ◆ Engine and low temperature radiators are arranged as one component part.

1 - Radiator with low temperature radiator for charge air system

- ☐ Removing and installing
⇒ ["3.6 Removing and installing radiator \(Octavia II, Yeti\)", page 160](#)
- ☐ After replacing, fill with fresh coolant

2 - Coolant hose

- ☐ to charge-air cooler in intake manifold

3 - Coolant hose

- ☐ to exhaust gas turbo-charger

4 - Coolant hose

- ☐ to low temperature radiator for charge air system

5 - Coolant hose

- ☐ to exhaust gas turbo-charger

6 - expansion reservoir

- ☐ with coolant shortage warning light sender - G32-
- ☐ Check the cooling system for tightness
⇒ ["3.7 Check cooling system for leaks", page 162](#)

7 - Connector

8 - Screw cap

- ☐ Check the overpressure valve in the screw cap ⇒ ["3.7 Check cooling system for leaks", page 162](#)

9 - Screw

- ☐ 5 Nm

10 - Plastic inserts

- ☐ for fixing screws

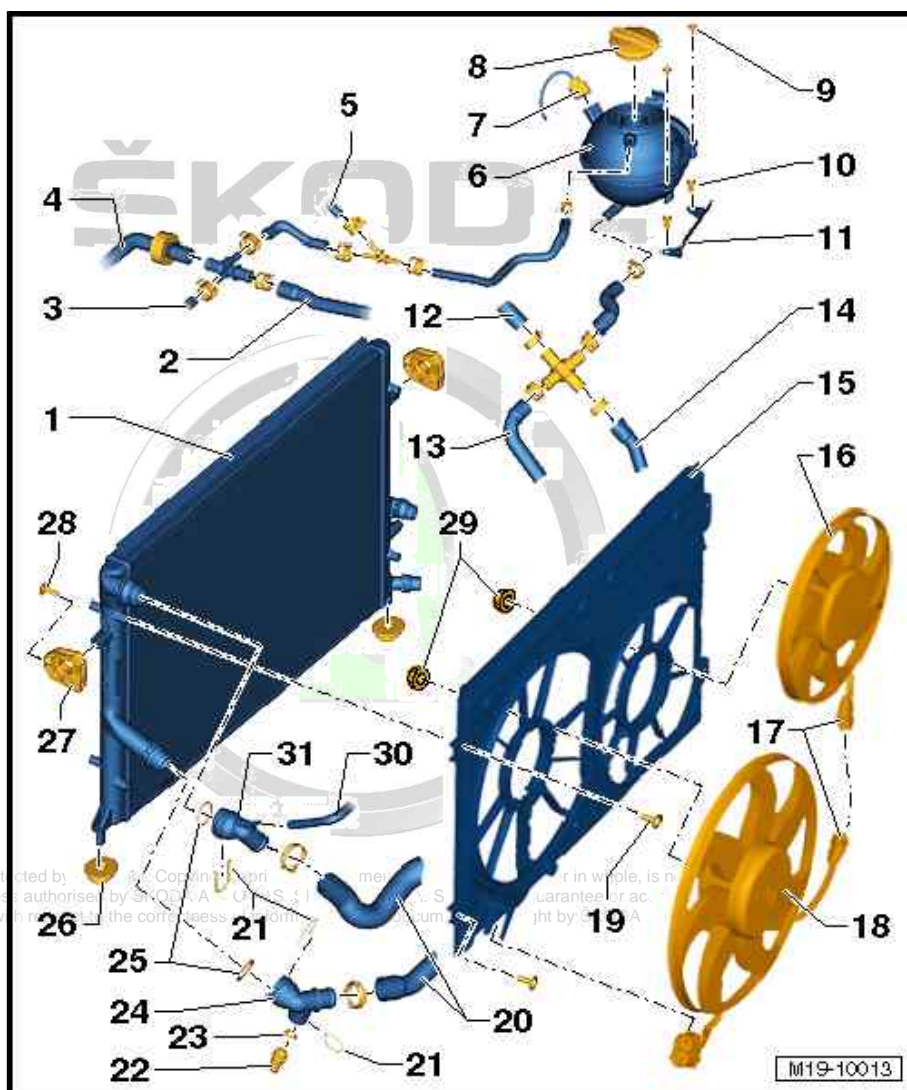
11 - Mounting bracket

12 - Coolant hose

- ☐ to engine oil cooler

13 - Coolant hose

- ☐ to coolant pipe below intake manifold





14 - Coolant hose

- ☐ at coolant recirculation pump - V50-

15 - Fan shroud

- ☐ Removing and installing ⇒ [“3.4 Removing and installing fan shroud, Octavia II, Yeti”, page 157](#)

16 - Radiator fan 2 - V177-

17 - Connector

18 - Radiator fan - V7-

19 - Screw

- ☐ 5 Nm

20 - Coolant hose

- ☐ on coolant thermostat housing

21 - Retaining clip

- ☐ Check for secure seating

22 - Coolant temperature sender at radiator outlet - G83-

23 - O-ring

- ☐ replace if damaged

24 - Connection fitting

- ☐ for bottom coolant hose

25 - O-ring

- ☐ replace if damaged

26 - Bottom radiator bearing

27 - Top radiator bearing

28 - Screw

- ☐ 5 Nm

29 - Nut

- ☐ 5 Nm

30 - Coolant hose

- ☐ to heat exchanger for heating

31 - Connection fitting

- ☐ for top coolant hose

ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

3.3 Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH



Note

Different versions of the fan shrouds are mounted ⇒ Electronic Catalogue of Original Parts .



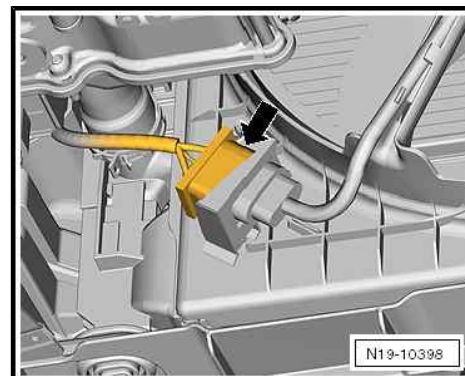
WARNING

There is risk of injury from radiator fans starting up automatically.

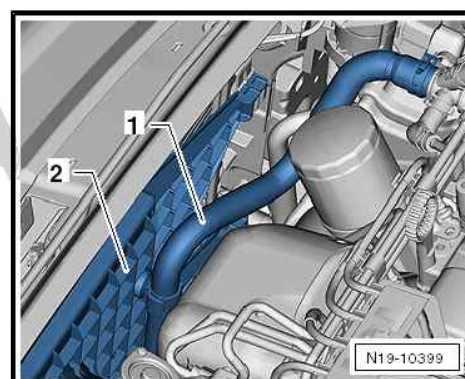
- Before carrying out work in the fan shroud area, disconnect the electrical plug connections of the fan.

Removing

- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Disconnect plug connection -arrow-.



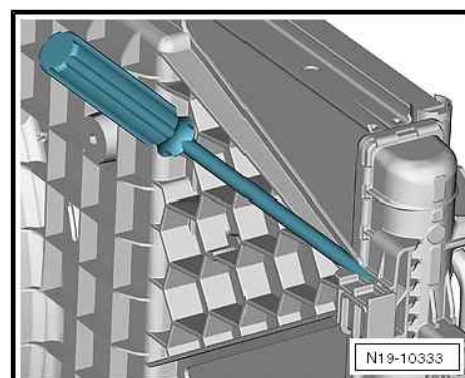
- Open the retaining clips of the coolant hose -1- at the fan shroud -2-.



- Unlock mount for fan shroud top right and left and lift shroud from the mounts.
- Remove fan shroud downwards.

Installing

Installation is carried out in the reverse order.



3.4 Removing and installing fan shroud, Octavia II, Yeti



Note

The removal and installation of the fan shroud with two radiator fans is similar to the removal and installation of the radiator cowl with one radiator fan.



WARNING

There is risk of injury from radiator fans starting up automatically.

- Before carrying out work in the fan shroud area, disconnect the electrical plug connections of the fan.

Removing

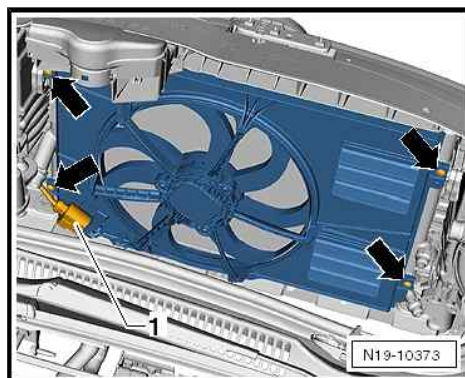
- Remove air filter
⇒ [“3.4 Removing and installing air filter \(Octavia II, Yeti\)”, page 275](#) .
- Unscrew the top fixing screws -arrows- of the fan shroud.
- Remove noise insulation ⇒ Body Work; Rep. gr. 50 .
- Disconnect the plug connection -1- and unscrew the bottom fixing screws of the fan shroud -arrows-.
- Remove fan shroud downwards.

Installing

Installation is carried out in the reverse order.

Tightening torques

- ♦ Fan shroud on radiator
⇒ [“3.2 Summary of components - Parts of the cooling system fitted to body, Octavia II, Yeti”, page 153](#) .



3.5 Removing and installing radiator (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ♦ Catch pan , e.g. -VAS 6208-
- ♦ Pliers for spring-type clips

Removing



WARNING

There is risk of injury from radiator fans starting up automatically.

- Before carrying out work in the fan shroud area, disconnect the electrical plug connections of the fan.
- Remove front bumper ⇒ Body Work; Rep. gr. 63 .
- Drain coolant ⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Remove fan shroud with radiator fan - V7-
⇒ [“3.3 Removing and installing the radiator cowl, Fabia II, Roomster, Rapid NH”, page 156](#) .
- Disconnect plug from thermo-switch for radiator fan - F18- .
- Detach top coolant hose from radiator connection fitting.
- Detach top coolant hose from connection fitting of charge air cooler.
- Unscrew screws for radiator bearing on right and left, position -27-
⇒ [“3.1 Overview of components - Parts of the cooling system fitted to the body, Fabia II, Roomster, Rapid NH”, page 150](#) .
- Push the radiator to the rear and remove the right and left radiator bearing Pos. -26-
⇒ [“3.1 Overview of components - Parts of the cooling system fitted to the body, Fabia II, Roomster, Rapid NH”, page 150](#) .

Vehicles without air conditioning system

- Push the radiator together with the charge air cooler upwards out of the bottom rubber bearings and remove it laterally down.

Vehicles with air conditioning

- Put lock carrier in service position ⇒ Body Work; Rep. gr. 50 .
- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#) .



WARNING

Risk of injury through refrigerant.

- ◆ *Do not open the refrigerant circuit of the air conditioning system.*



Caution

Risk of damaging the condenser as well as the refrigerant lines and hoses.

- ◆ *Do not over-tension or buckle refrigerant lines and hoses.*

- Remove the AC compressor from the bracket for auxiliary units and secure it with connected refrigerant hoses to the body.

Protected by copyright. Copying, distributing or commercial use, in part or in whole, is prohibited unless authorized by SKODA AUTO A. S. does not guarantee or accept any liability with respect to the content of this document. Copyright by SKODA AUTO A. S.

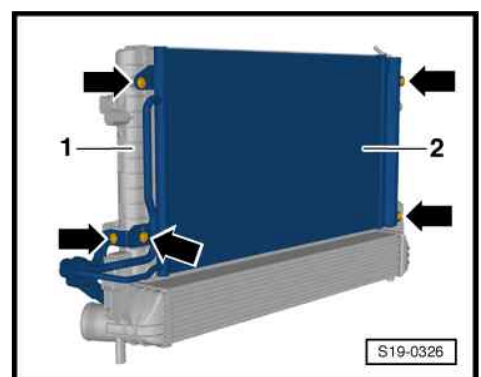
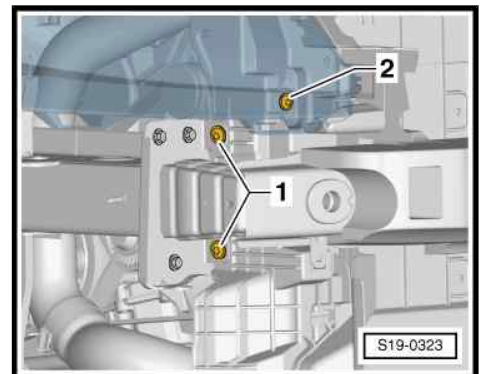
- Mark the installation position of the screws -1- on the right and left and only slacken them.

- Push the radiator together with the charge air cooler and the condenser upwards out of the lower rubber bearings.

To do so, pull the plastic housing of the lock carrier downwards. On the right between the refrigerant line and the body there is very little space available.

- Lay the radiator with the condenser to the rear.

- Unscrew the screws -arrows- of the condenser -2- from the radiator -1-.
- Draw the condenser forwards and attach to the lock support.
- Remove radiator together with charge air cooler laterally down.





Continued for all vehicles

- Push the radiator -1- in -direction of arrow- out of the lateral brackets on the charge-air cooler -2-.

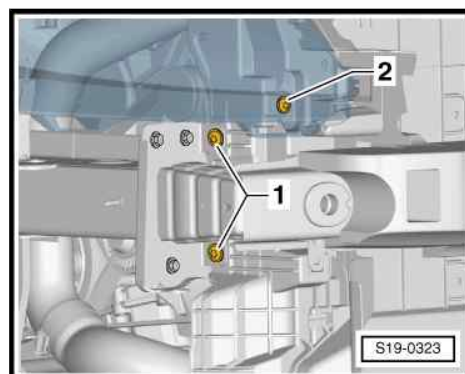
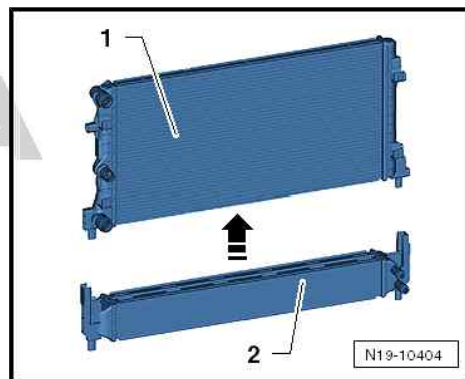
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- On vehicles with air conditioning system, push the plastic housing of the lock carrier upwards into the initial position and tighten the screws -1- on the right and left.
- Top up coolant
⇒ [“1.3 Draining and filling coolant”, page 142](#) .

Tightening torques

Component	Tightening torque
Screws for plastic housing of the lock carrier	8 Nm



3.6 Removing and installing radiator (Octavia II, Yeti)

Special tools and workshop equipment required

- ♦ Catch pan , e.g. - VAS 6208-
- ♦ Pliers for spring-type clips

Removing



WARNING

There is risk of injury from radiator fans starting up automatically.

- Before carrying out work in the fan shroud area, disconnect the electrical plug connections of the fan.
- Drain coolant ⇒ [“1.3 Draining and filling coolant”, page 142](#) .
- Removing fan shroud
⇒ [“3.4 Removing and installing fan shroud, Octavia II, Yeti”, page 157](#) .

- Remove top left coolant fitting from radiator, to do so raise the retaining clip -arrow-.
- Detach the connection fitting of the top right coolant hose for the low temperature radiator.
- Remove front bumper ⇒ Body Work; Rep. gr. 63 .
- Remove battery tray ⇒ Electrical System; Rep. gr. 94 .

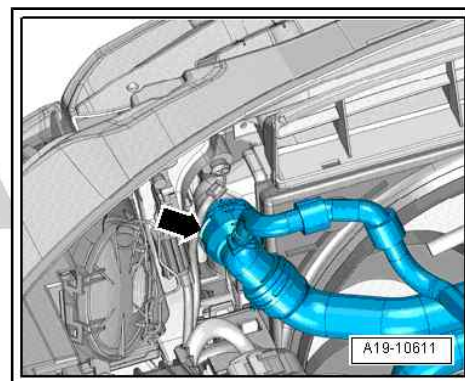
Vehicles with air conditioning



WARNING

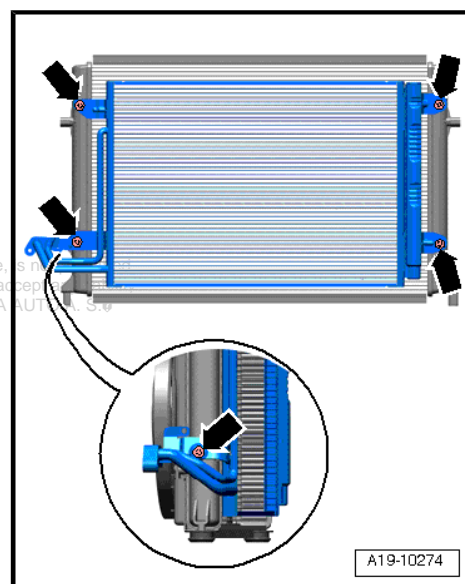
Do not open the refrigerant circuit of the air conditioning system.

To prevent damage to condenser or to refrigerant lines/hoses, ensure that the lines and hoses are not stretched, kinked or bent.



- Unscrew fixing screws for condenser -arrows-.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



Continued for all vehicles

- Release screws for radiator bearing -1-.
- Swivel the radiator slightly backwards.
- Unhook radiator upwards and remove downwards.

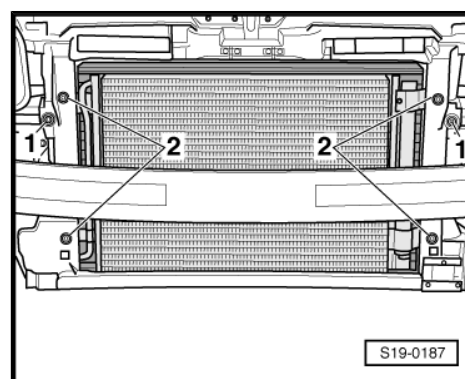
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- Top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .

Tightening torques

- ◆ Screws for radiator bearing
⇒ [“3.2 Summary of components - Parts of the cooling system fitted to body, Octavia II, Yeti”, page 153](#) .



3.7 Check cooling system for leaks

⇒ "3.7.1 Checking with the cooling system testing device V.A.G 1274", page 162

⇒ "3.7.2 Checking with the cooling system testing device V.A.G 1274 B", page 163

3.7.1 Checking with the cooling system testing device - V.A.G 1274-

Special tools and workshop equipment required

- ◆ Cooling system testing device , e.g. -V.A.G 1274-
- ◆ Adapter for cooling system testing device , e.g. -V.A.G 1274/8-
- ◆ Adapter for cooling system testing device , e.g. -V.A.G 1274/9-

Test condition

- Engine must be warm.



WARNING

Hot steam may escape when the coolant expansion reservoir is opened. Wear safety goggles and safety clothing to avoid eye injuries and scalding. Cover the cap with a cloth and open carefully.

- Open compensation bottle.
- Position the cooling system testing device - V.A.G 1274- with adapter - V.A.G 1274/8 - on the coolant expansion reservoir.
- Using the hand pump of the testing device, generate an over-pressure of approx. 0.15 MPa (1.5 bar).
- The pressure must not drop below 0.02 MPa (0.2 bar) after 10 minutes.

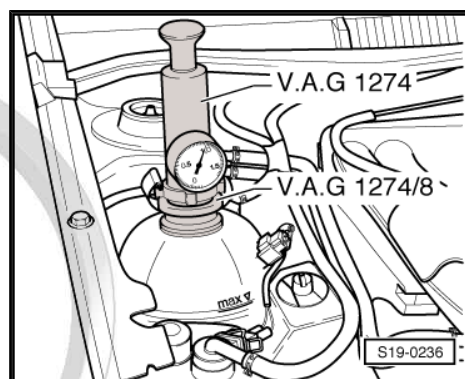
If the pressure falls below 0.02 MPa (0.2 bar):

- Search position of the leak and repair fault.



Note

- ◆ A loss of pressure of 0.02 MPa (0.2 bar) within 10 minutes is caused by cooling of the coolant. The colder the engine, the lower the pressure loss.
- ◆ You may need to repeat the test when the engine is cold.

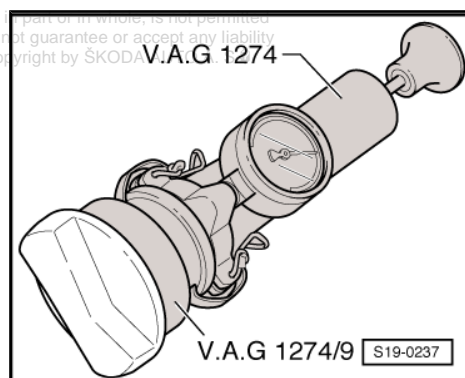


Testing the pressure relief valve in the cap

- Fit the cooling system testing device - V.A.G 1274- with adapter - V.A.G 1274/9 - on the cap.
- Operate the handpump.
- The pressure relief valve should open at a pressure of 0.14...0.16 MPa (1.4...1.6 bar).

If the pressure relief valve does not open:

- Renew cap.



3.7.2 Checking with the cooling system testing device - V.A.G 1274 B-

Special tools and workshop equipment required

- ◆ Cooling system testing device , e.g. -V.A.G 1274 B-
- ◆ Adapter , e.g. -V.A.G 1274/8-
- ◆ Adapter , e.g. -V.A.G 1274/9-



Note

To ensure that the leaktightness test can be carried out correctly, first carry out the test (self-test) of the cooling system testing device - V.A.G 1274 B-.

Test (self-test) of the cooling system testing device - V.A.G 1274 B-

- Use the cooling system testing device - V.A.G 1274 B- to build up the pressure to 0.3 MPa (3.0 bar).
- Monitor the pressure on the pressure manometer of the cooling system testing device - V.A.G 1274 B- 30 seconds long.

Pressure is not established or the pressure drops:

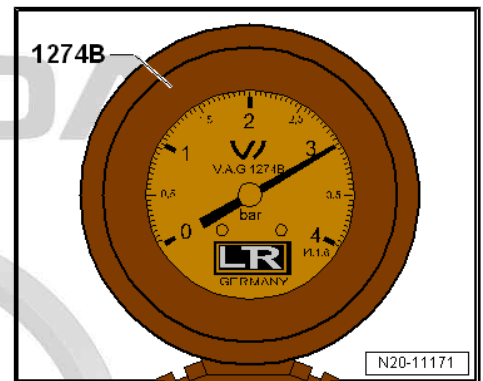
The cooling system testing device - V.A.G 1274 B- is not OK and cannot be used for the test.

Pressure is built up and does not drop:

The cooling system testing device - V.A.G 1274 B- is OK and can be used for the test.

Check cooling system for leaks

- Engine must be warm.



WARNING

When opening the expansion reservoir, out hot steam or hot coolant may escape.

- ◆ *Wear safety goggles and safety clothing to avoid eye injuries and scalding.*
- ◆ *Cover the cap with a cloth and open carefully.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for information in this document. Copyright by ŠKODA AUTO A. S. ©

- Open the cap of the coolant expansion reservoir.
- Screw the adapter - V.A.G 1274/8- into the coolant expansion reservoir.
- Connect the connecting piece - V.A.G 1274 B/1- to the adapter - V.A.G 1274/8-.



- Connect the connecting piece - V.A.G 1274 B/1- to the cooling system testing device - V.A.G 1274 B- via the supplied connecting hose.
- Build up a pressure of approximately 0.15 MPa (1.5 bar) using hand pump on cooling system testing device - V.A.G 1274 B- .
- The pressure must not drop below 0.02 MPa (0.2 bar) after 10 minutes.

If the pressure drops by more than 0.02 MPa (0.2 bar), look for leaks and resolve any errors.



Note

- ◆ A loss of pressure of 0.02 MPa (0.2 bar) within 10 minutes is caused by cooling of the coolant. The colder the engine, the lower the pressure loss.
- ◆ You may need to repeat the test when the engine is cold.



WARNING

Risk of scalding!

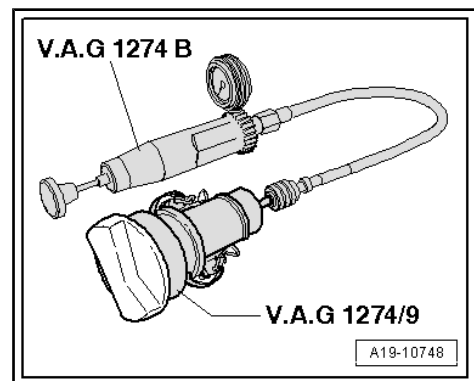
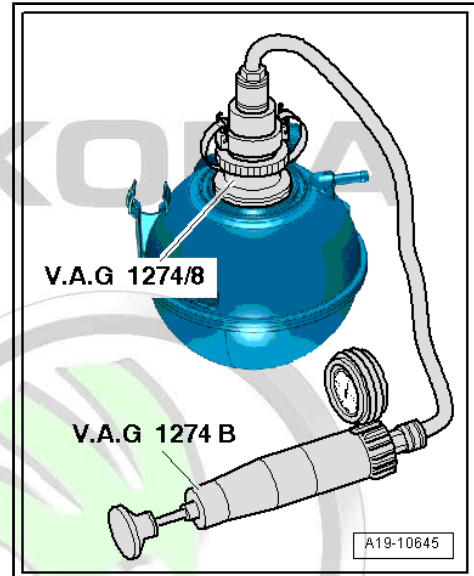
- ◆ Before the cooling system testing device - V.A.G 1274 B- is separated from the connecting hose or the connecting piece - V.A.G 1274 B/1- , the existing pressure must absolutely be released.
- ◆ For this step, press the pressure relief valve on the cooling system testing device - V.A.G 1274 B- until the pressure gauge indicates the value »0«.

Testing the pressure relief valve in the cap

- Screw the screw cap into the adapter - V.A.G 1274/9- .
- Connect the connecting piece - V.A.G 1274 B/1- to the adapter - V.A.G 1274/9- .
- Connect the connecting piece - V.A.G 1274 B/1- to the cooling system testing device - V.A.G 1274 B- via the supplied connecting hose.
- Generate a pressure for testing the pressure valve in the screw cap.
- The pressure valve should open at a pressure of 0.14...0.16 MPa (1.4...1.6 bar).

If the valve does not open in the prescribed pressure range:

- Renew cap.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

20 – Fuel supply system

1 Fuel tank

⇒ [“1.1 Summary of components - fuel tank, Fabia II”, page 165](#)

⇒ [“1.2 Summary of components - fuel tank, Roomster, Rapid NH”, page 168](#)

⇒ [“1.3 Overview of components - fuel tank version I, Octavia II, Yeti”, page 171](#)

⇒ [“1.4 Overview of components - fuel tank version II, Yeti”, page 173](#)

⇒ [“1.5 Summary of components - fuel filter, Octavia II, Yeti”, page 175](#)

⇒ [“1.6 Drain the fuel tank”, page 176](#)

⇒ [“1.7 Removing and installing the fuel tank \(Fabia II, Roomster, Rapid NH\)”, page 184](#)

⇒ [“1.8 Removing and installing the fuel tank \(Octavia II, Yeti - version I\)”, page 187](#)

⇒ [“1.9 Removing and installing the fuel tank \(Yeti - version II\)”, page 190](#)

1.1 Summary of components - fuel tank, Fabia II

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



1 - Fuel tank

- ☐ support with engine/ gearbox jack - V.A.G 1383 A- when removing
- ☐ Removing and installing ⇒ ["1.7 Removing and installing the fuel tank \(Fabia II, Roomster, Rapid NH\)", page 184](#)

2 - Screw

- ☐ 25 Nm

3 - Tensioning strap

4 - Vent line

- ☐ to solenoid valve 1 for activated charcoal filter - N80- in engine compartment

5 - fuel feed line

- ☐ black
- ☐ to fuel rail at intake manifold

6 - Fuel filter

- ☐ with integrated fuel pressure regulator 0.4 MPa (4 bar)
- ☐ blue return-flow line in the middle and black feed line on the edge
- ☐ Fitting location: Pin at filter housing must engage in the recess of the guide for the fixing clamp

- ☐ the direction of flow is marked by arrow

7 - Screw

- ☐ for collar clamp for fuel filter
- ☐ 5 Nm

8 - Sealing ring

- ☐ moisten with fuel before installing

9 - Fuel gauge encoder - G-

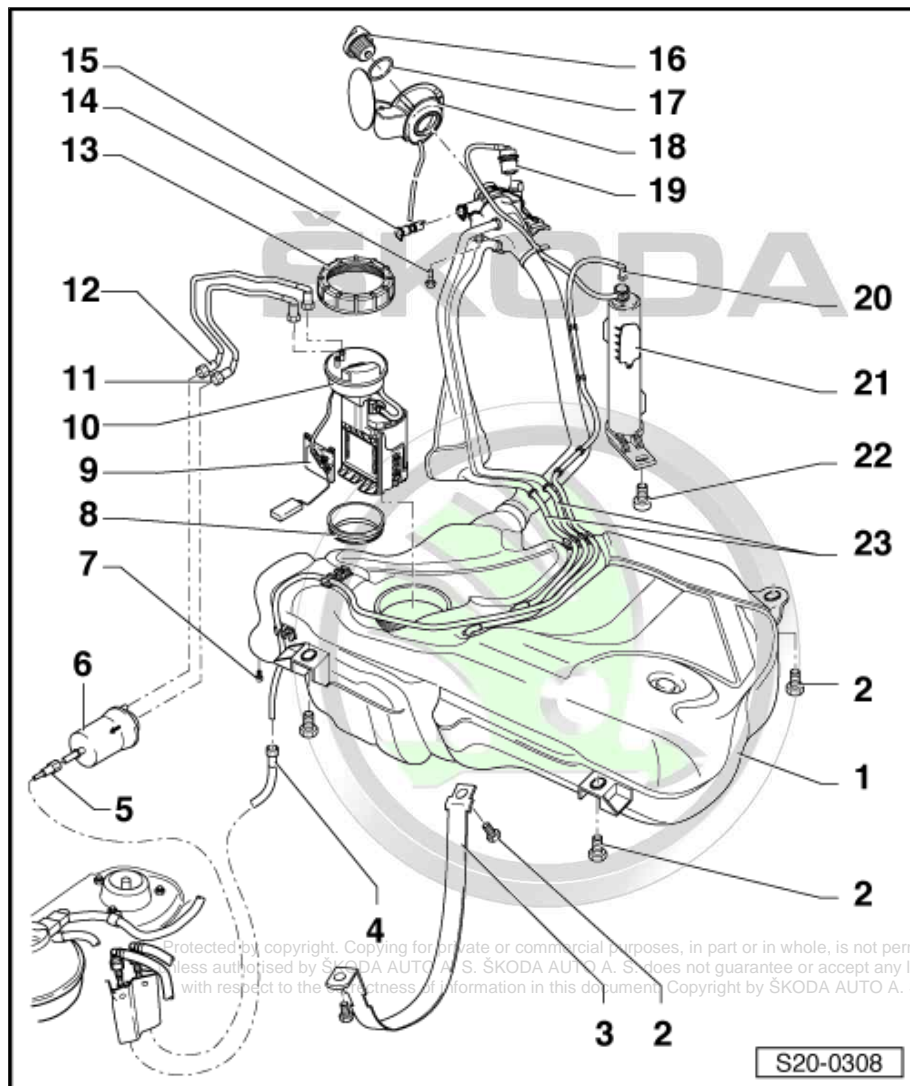
- ☐ Removing and installing ⇒ ["2.5 Removing and installing the fuel gauge sender G ", page 203](#)

10 - Fuel pump

- ☐ Summary of components ⇒ ["2.1 Summary of components - fuel pump G6 and fuel gauge sender", page 194](#)
- ☐ Removing and installing ⇒ ["2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)", page 196](#)
- ☐ inspecting fuel pump ⇒ ["2.8 inspecting fuel pump", page 206](#)
- ☐ Clean strainer if dirty
- ☐ Installation position of the flange of fuel delivery unit ⇒ [page 167](#)

11 - Return-flow line

- ☐ from the fuel filter into the fuel delivery unit
- ☐ blue



12 - Feed line

- ☐ from the fuel delivery unit into the fuel filter
- ☐ black

13 - Union nut

- ☐ use wrench for union nut - MP1-227 (3217)- for removing and installing
- ☐ 80 Nm

14 - Screw

- ☐ 10 Nm

15 - Vent valve

- ☐ to remove, unclip valve at side and take out of filler neck.
- ☐ before installing, unscrew cap -16-
- ☐ Check ⇒ [page 168](#)

16 - Screw cap

17 - Sealing ring

- ☐ replace if damaged

18 - Fuel tank lid unit

- ☐ with rubber bowl
- ☐ Removing and installing ⇒ Body Work; Rep. gr. 55

19 - Gravity valve

- ☐ to remove, unclip valve at top and lift out of filler neck
- ☐ inspect valve for blockage

◆ Valve in a vertical position: open

◆ Valve tilted 45°: closed

20 - Vent line

- ☐ between activated charcoal filter -21- and vent line -4-

21 - Activated charcoal filter

- ☐ Summary of components of activated charcoal filter system
⇒ ["5.1 Summary of components - activated charcoal filter system, Fabia II", page 240](#)
- ☐ Checking the fuel tank venting
⇒ ["5.4 Ventilation - Summary of components \(Fabia II, Roomster, Rapid NH\)", page 242](#)

22 - Screw

- ☐ 10 Nm

23 - Vent line

- ☐ clipped in place on fuel tank

Fitting location of the fuel delivery unit



Note

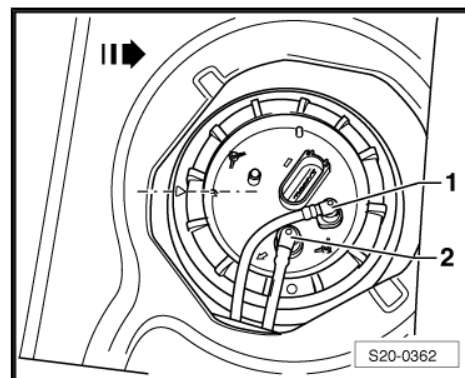
The fuel delivery unit can only be installed in this position.

The marking on the flange must be aligned with the marking on the fuel tank.

The -arrow- shows the direction of travel.

Connect blue or blue marked return-flow line -1- to the connection with the marking -R-.

Connect black feed line -2- to connection with marking -V-.





Inspect vent valve

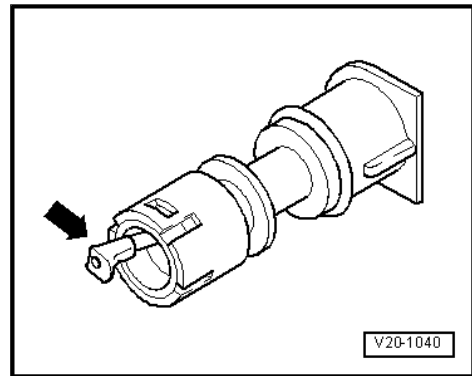
Lever in off position: valve closed

Lever pushed in direction of arrow: valve open



Note

Before installation of the vent valve unscrew the cap from the filler neck.



1.2 Summary of components - fuel tank, Roomster, Rapid NH

1 - Fuel tank

- ☐ support with engine/ gearbox jack - V.A.G 1383 A- when removing
- ☐ Removing and installing ⇒ ["1.7 Removing and installing the fuel tank \(Fabia II, Roomster, Rapid NH\)", page 184](#)

2 - Sealing ring

- ☐ replace if damaged

3 - Fuel pump

- ☐ Summary of components ⇒ ["2.1 Summary of components - fuel pump G6 and fuel gauge sender", page 194](#)
- ☐ Installation position of the flange of fuel delivery unit ⇒ [page 170](#)
- ☐ Removing and installing ⇒ ["2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)", page 196](#)
- ☐ inspecting fuel pump ⇒ ["2.8 inspecting fuel pump", page 206](#)
- ☐ Clean strainer if dirty

4 - Union nut

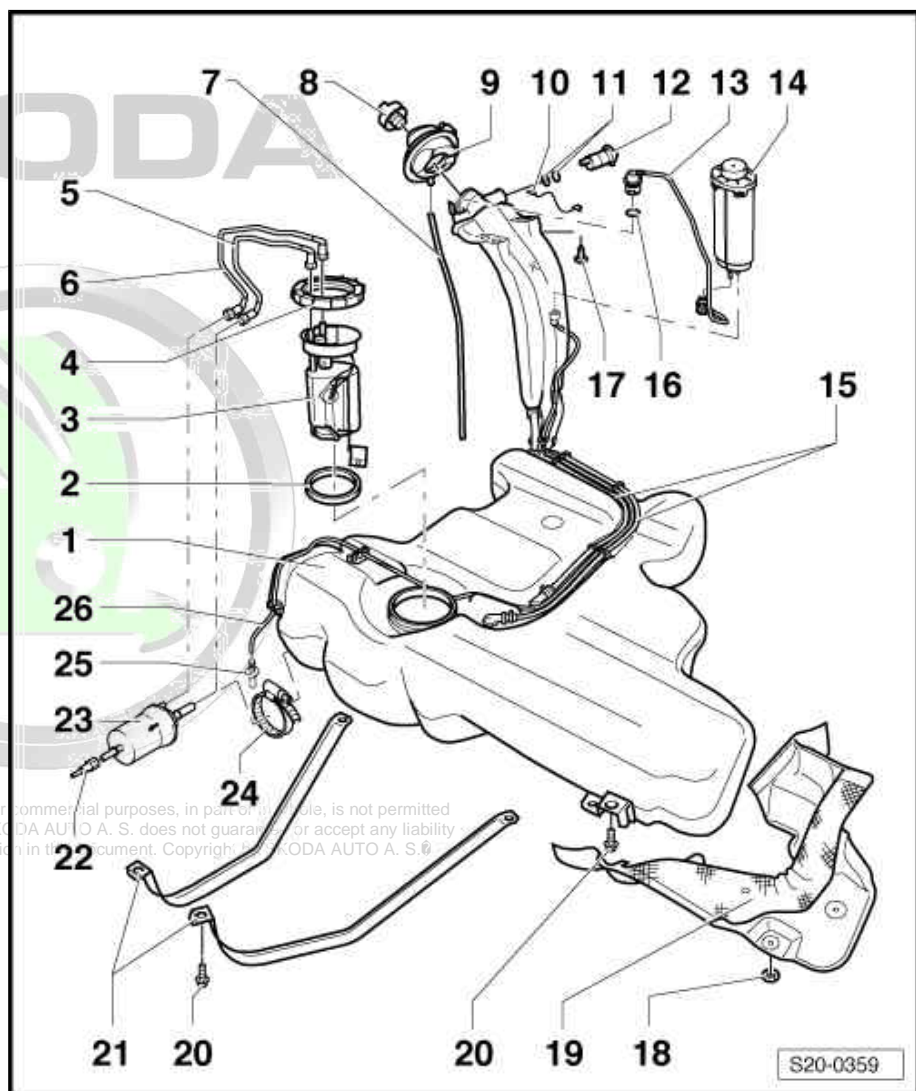
- ☐ slacken and tighten with wrench for union nut - MP1-227 (3217)-
- ☐ 80 Nm

5 - Return-flow line

- ☐ from the fuel delivery unit to the fuel filter
- ☐ blue

6 - Feed line

- ☐ from fuel filter to fuel delivery unit
- ☐ black



7 - Overflow hose

8 - Screw cap

9 - Fuel tank lid unit

- ☐ with rubber bowl
- ☐ Removing and installing ⇒ Body Work; Rep. gr. 55

10 - Earth connection

11 - O-ring

- ☐ Replace after removal

12 - Vent valve

- ☐ Check ⇒ [page 170](#)

13 - Gravity valve

- ☐ to remove, unclip valve and lift up and out of the filler neck
- ☐ inspect valve for blockage
- ◆ Valve in a vertical position: open
- ◆ Valve tilted 45°: closed

14 - Activated charcoal filter

- ☐ Summary of components of activated charcoal filter system
⇒ [“5.1 Summary of components - activated charcoal filter system, Fabia II”, page 240](#)
- ☐ Checking the fuel tank venting
⇒ [“5.4 Ventilation - Summary of components \(Fabia II, Roomster, Rapid NH\)”, page 242](#)

15 - Vent line

16 - O-ring

- ☐ Replace after removal

17 - Screw

- ☐ 10 Nm

18 - Circlip

19 - Heat shield

- ☐ for fuel tank

20 - Screw

- ☐ Replace after removal
- ☐ 25 Nm

21 - Straps

- ☐ pay attention to different lengths

22 - fuel feed line

- ☐ black
- ☐ from fuel filter to fuel distributor at intake manifold

23 - Fuel filter

- ☐ with integrated pressure limiting valve for fuel return-flow line
Opening pressure: 0.40 MPa (4.0 bar)
- ☐ do not interchange connections
- ☐ The direction of flow of fuel is marked by arrow
- ☐ Fitting position: Pin at filter housing must engage in the recess of the guide at the filter holder

24 - Screw clamp

- ☐ in some versions, replaced with integrated bracket for fuel filter

25 - Vent line

- ☐ between activated charcoal filter Pos. -14- and vent line Pos. -25-

ŠKODA





26 - Vent line

- ❑ to solenoid valve 1 for activated charcoal filter in engine compartment

Fitting location of the fuel delivery unit



Note

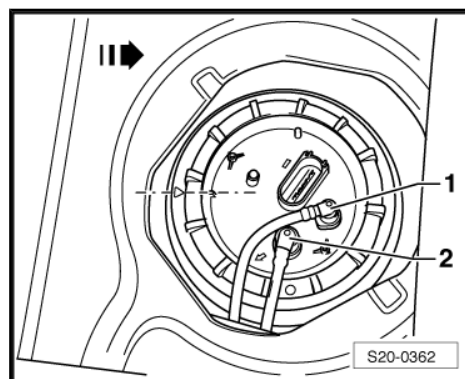
The fuel delivery unit can only be installed in this position.

The marking on the flange must be aligned with the marking on the fuel tank.

The -arrow- shows the direction of travel.

Connect blue or blue marked return-flow line -1- to the connection with the marking -R-.

Connect black feed line -2- to connection with marking -V-.



Inspect vent valve

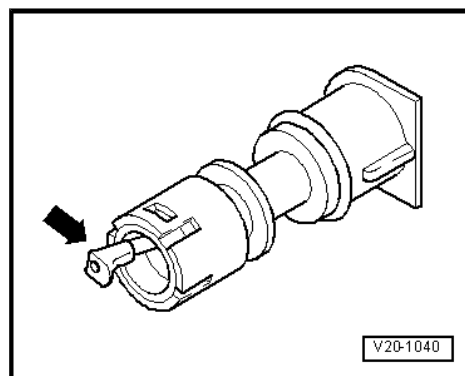
Lever in off position: valve closed

Lever pushed in direction of arrow: valve open



Note

Before installation of the vent valve unscrew the cap from the filler neck.



ŠKODA



1.3 Overview of components - fuel tank version I, Octavia II, Yeti

1 - Mounting part

2 - Screw cap

- ☐ replace if damaged

3 - Earth connection

- ☐ check for firm seating

4 - Screw

- ☐ 11 Nm

5 - Wiring

6 - Screw

- ☐ Replace after removal
- ☐ 25 Nm

7 - Fuel tank

- ☐ Removing and installing
⇒ ["1.8 Removing and installing the fuel tank \(Octavia II, Yeti - version I\)", page 187](#)

8 - Circlip

9 - Bracket for the exhaust system

10 - Tensioning strap

- ☐ Check fitting position

11 - Heat shield

12 - Feed line

- ☐ to fuel rail
- ☐ check for firm seating

13 - Fuel filter

- ☐ Removing and installing
⇒ ["1.5 Summary of components - fuel filter, Octavia II, Yeti", page 175](#)

14 - Vent line

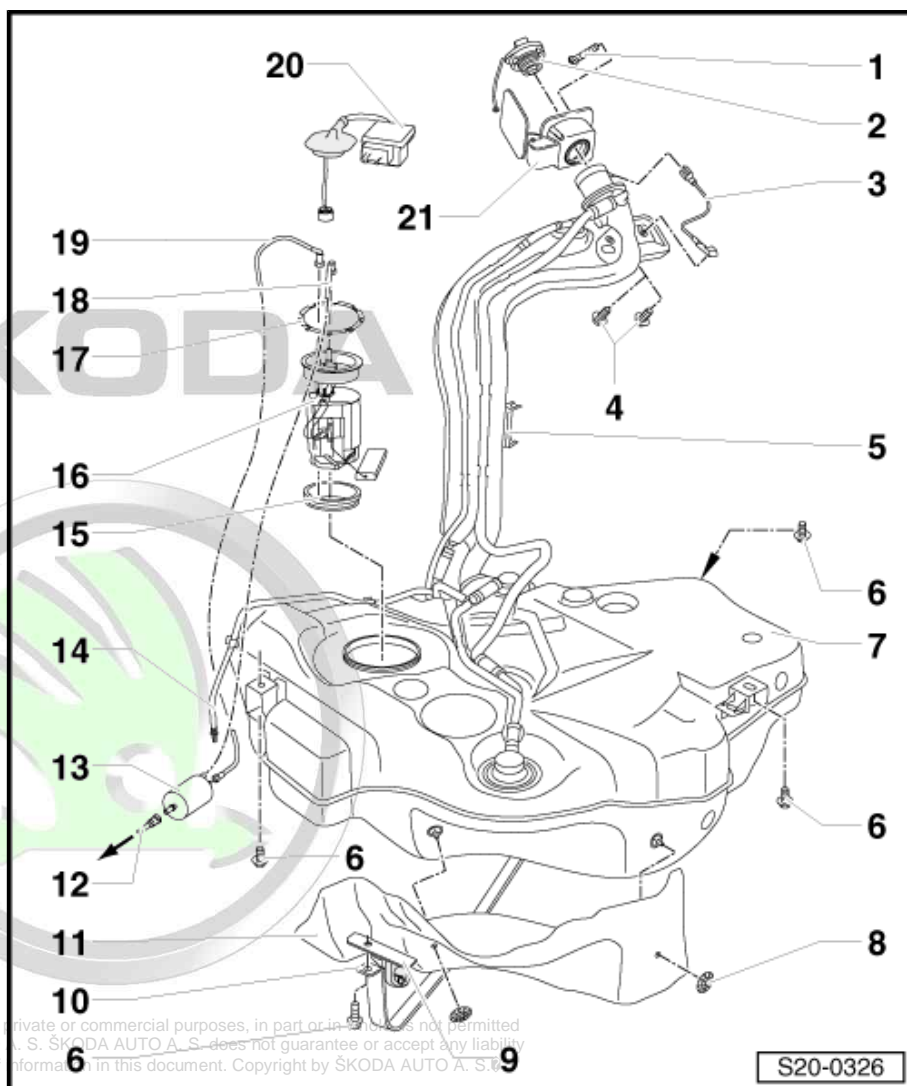
- ☐ Clipped onto side of fuel tank.
- ☐ check for firm seating

15 - Sealing ring

- ☐ Replacing
- ☐ to be inserted dry into the opening of the fuel tank
- ☐ only moisten the inner seal of the flange with fuel for fitting purposes

16 - Fuel pump

- ☐ Summary of components
⇒ ["2.1 Summary of components - fuel pump G6 and fuel gauge sender", page 194](#)
- ☐ Removing and installing
⇒ ["2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)", page 198](#)
- ☐ inspecting fuel pump ⇒ ["2.8 inspecting fuel pump", page 206](#)
- ☐ Note correct installation position on the fuel tank ⇒ [page 172](#)
- ☐ with fuel gauge sender - G-
- ☐ Removing and installing the fuel gauge sender - G-
⇒ ["2.5 Removing and installing the fuel gauge sender G", page 203](#)





- ☐ Clean strainer if dirty

17 - Lock ring

- ☐ check for firm seating
- ☐ use wrench - T10202- for removing and installing
- ☐ 110 Nm

18 - Feed line

- ☐ black
- ☐ Clipped onto side of fuel tank.
- ☐ check for firm seating

19 - Return-flow line

- ☐ blue
- ☐ Clipped onto side of fuel tank.
- ☐ check for firm seating

20 - Fuel pump control unit - J538 -

- ☐ after replacing, adapt the engine control unit - J623- to the fuel pump control unit - J538- ➔ Vehicle diagnostic tester
- ☐ Check ➔ Vehicle diagnostic tester

21 - Fuel tank lid unit

- ☐ with rubber bowl
- ☐ Removing and installing ➔ Body Work; Rep. gr. 55

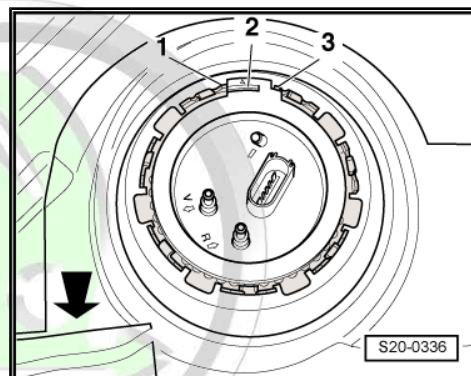
Fitting location of the fuel delivery unit

The peg -2- on the fuel delivery unit must be between the pegs -1- and -3-.



Note

- ◆ The -arrow- shows the direction of travel.
- ◆ The fuel delivery unit can only be installed in this position.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1.4 Overview of components - fuel tank version II, Yeti

1 - Feed line

- ☐ black
- ☐ check for firm seating

2 - Return-flow line

- ☐ blue
- ☐ check for firm seating

3 - Sealing ring

- ☐ Replace after removal
- ☐ insert dry into the opening of the fuel tank
- ☐ only moisten the inner seal of the flange with fuel for fitting purposes

4 - Fuel pump

- ☐ Summary of components
⇒ ["2.1 Summary of components - fuel pump G6 and fuel gauge sender", page 194](#)
- ☐ Removing and installing
⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)", page 200](#)
- ☐ inspecting fuel pump
⇒ ["2.8 inspecting fuel pump", page 206](#)
- ☐ Note installation position on the fuel tank
⇒ [page 174](#)
- ☐ with fuel gauge sender - G-
- ☐ Removing and installing the fuel gauge sender - G-
⇒ ["2.5 Removing and installing the fuel gauge sender G", page 203](#)
- ☐ Clean strainer if dirty

5 - Lock ring

- ☐ check for firm seating
- ☐ use wrench - T10202- for removing and installing
- ☐ 110 Nm

6 - Fuel pump control unit - J538-

- ☐ after replacing, adapt the engine control unit - J623- to the fuel pump control unit - J538- ⇒ Vehicle diagnostic tester

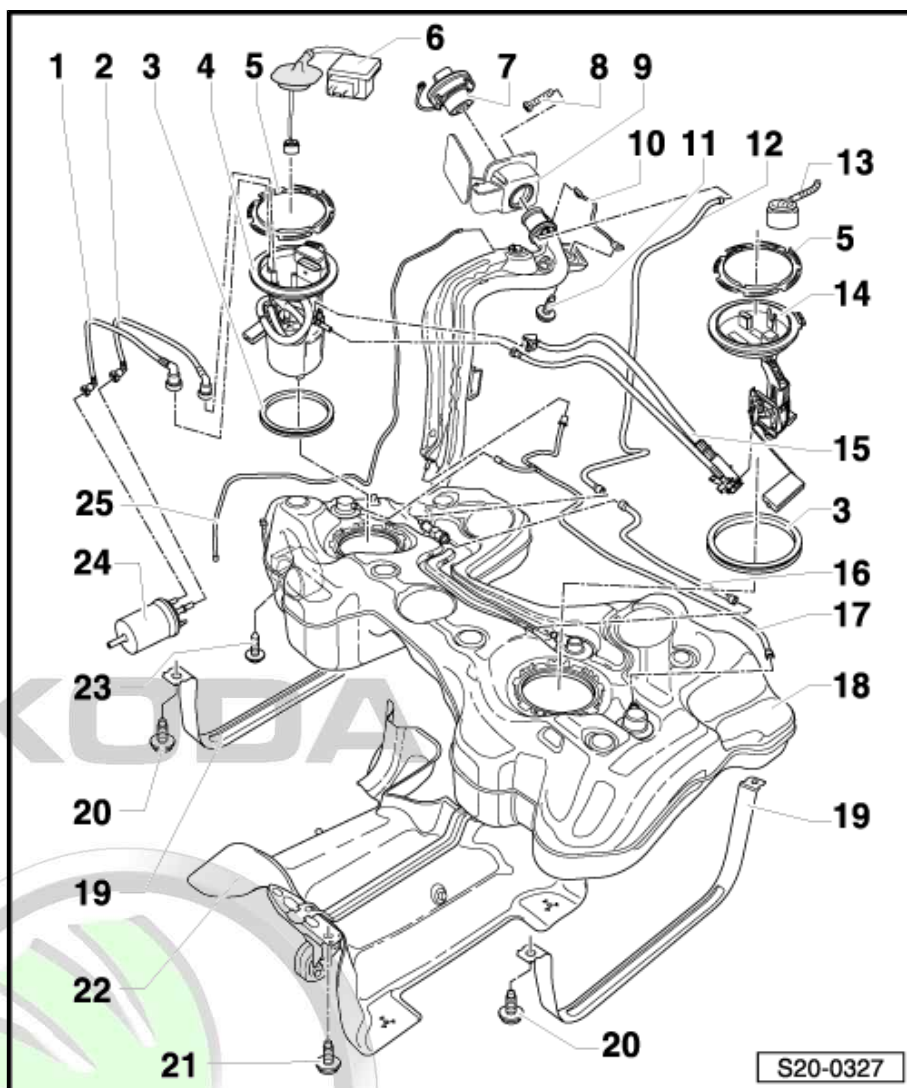
7 - Screw cap

- ☐ replace if damaged

8 - Screw

9 - Fuel tank lid unit

- ☐ with rubber bowl
- ☐ Removing and installing ⇒ Body Work; Rep. gr. 55





10 - Earth connection

- ☐ check for firm seating

11 - Screw

- ☐ 11 Nm

12 - Tank ventilation

13 - Connector

- ☐ Fuel gauge sender 2 - G169-

14 - Fuel gauge sender 2 - G169-

- ☐ Removing and installing
⇒ [“2.6 Removing and installing fuel gauge sender 2 G169 \(Yeti - fuel delivery unit version II\)”](#),
[page 204](#)

15 - Suction spray pump

- ☐ clipped in place on fuel gauge sender 2 - G169-
- ☐ Removing and installing
⇒ [“2.7 Removing and installing the suction jet pump \(Yeti - fuel delivery unit version II\)”](#), [page 206](#)

16 - Tank ventilation

17 - Vent line

18 - Fuel tank

- ☐ Removing and installing ⇒ [“1.9 Removing and installing the fuel tank \(Yeti - version II\)”](#), [page 190](#)

19 - Tensioning strap

- ☐ Check fitting position

20 - Screw

- ☐ Replace after removal
- ☐ 25 Nm

21 - Screw

- ☐ 23 Nm

22 - Heat shield

- ☐ riveted together with hanger of exhaust system

23 - Screw

- ☐ 3 Nm

24 - Fuel filter

- ☐ Summary of components ⇒ [“1.5 Summary of components - fuel filter, Octavia II, Yeti”](#), [page 175](#)

25 - Vent line

- ☐ Clipped onto side of fuel tank.
- ☐ check for firm seating

Fitting position of the flange of the fuel delivery unit and the fuel gauge sender 2 - G169-

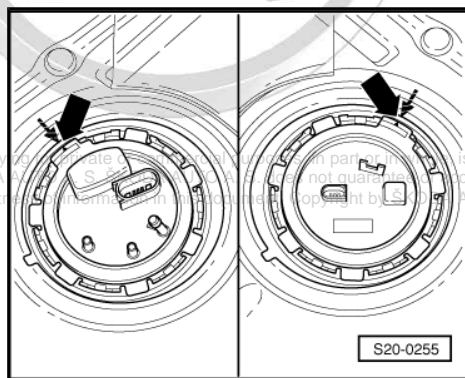
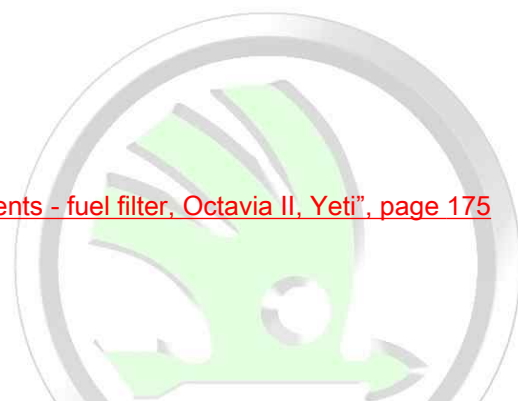
Marking on the flange must be aligned with marking on the fuel tank -arrows-.



Note

The arrows on the fuel tank are hardly visible due to the floor panel.

ŠKODA



Protected by copyright. Copying or reproduction in any form without the written permission of ŠKODA AUTO A. S. is not permitted unless authorised by ŠKODA AUTO A. S. in writing. ŠKODA AUTO A. S. does not guarantee the correctness of the information with respect to the correct use of the vehicle. Copyright by ŠKODA AUTO A. S. ©

1.5 Summary of components - fuel filter, Octavia II, Yeti

1 - Fuel filter

- ☐ with installed pressure limiting valve for fuel re-turn-flow line
- ☐ do not interchange connections
- ☐ Fitting position
⇒ [page 175](#)

2 - fuel feed line

- ☐ black
- ☐ from fuel tank
- ☐ press in the circlip to unlock

3 - Fuel return-flow line

- ☐ blue
- ☐ to fuel tank
- ☐ press in securing ring in order to unlock
⇒ ["3 Quick couplings", page 232](#)

4 - fuel feed line

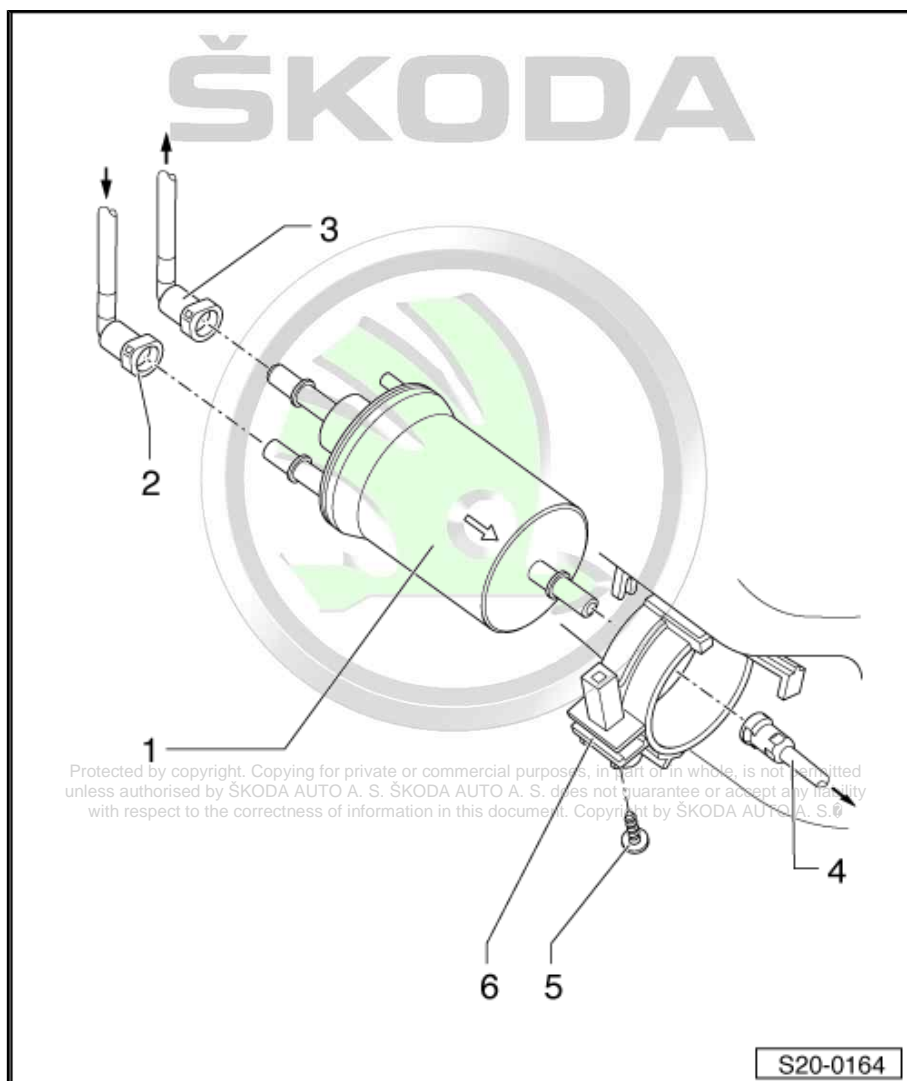
- ☐ black
- ☐ to the engine
- ☐ press in securing ring in order to unlock
⇒ ["3 Quick couplings", page 232](#)

5 - Screw

- ☐ 3 Nm

6 - Mounting bracket

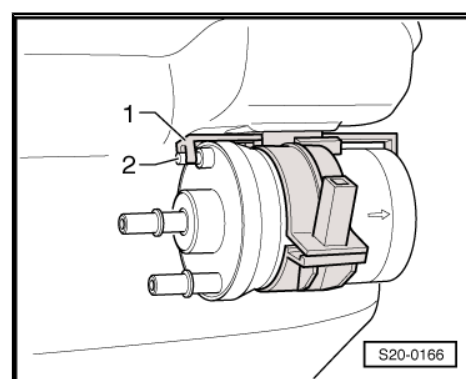
- ☐ for fuel filter
- ☐ attached to the fuel tank



Fitting position of the fuel filter

The pin -2- at the filter housing must engage in the recess -1- of the bracket.

The direction of flow is marked by arrows.





1.6 Drain the fuel tank

⇒ [“1.6.1 Emptying fuel tank when fuel pump is intact”, page 176](#)

⇒ [“1.6.2 If the fuel pump has a fault, and the fuel tank is filled by more than 3/4 if there is a fault to the fuel pump.”, page 178](#)

⇒ [“1.6.3 Fuel tank when fuel pump has a fault and when the fuel tank is filled by less than 3/4 - Fabia II, Roomster, Rapid NH, Octavia II and Yeti with fuel tank version I”, page 180](#)

⇒ [“1.6.4 Fuel tank when fuel pump has a fault and when the fuel tank is filled by less than 3/4 - Yeti with fuel tank version II”, page 182](#)

1.6.1 Emptying fuel tank when fuel pump is intact

Special tools and workshop equipment required

- ◆ Fuel extraction device , e.g. -VAS 5190-
- ◆ Adapter for fuel extraction - VAS 5190/3-
- ◆ Removal wedge - 3409-
- ◆ Remote control - V.A.G 1348/3A-
- ◆ Auxiliary measuring set, , e. g. -V.A.G 1594 C-
- ◆ Adapter - VAS 5565-

Safety precautions when working on the fuel supply system

⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

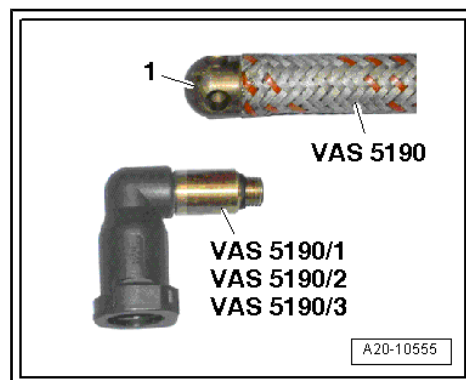
Observe cleanliness requirements when working on the fuel system ⇒ [“3.1 Rules of cleanliness”, page 7](#) .



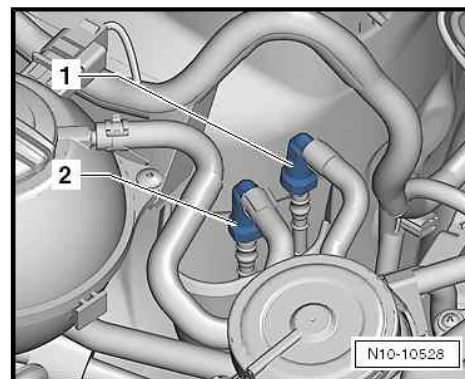
Note

If the fuel extraction device - VAS 5190- is still fitted with an extraction hose with a fixed tip, replace it by the version with a screw-type tip. not permitted
Unauthorized by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S.

- Unscrew tip -1- from extraction hose of fuel extraction unit - VAS 5190- .
- Screw on fuel extraction adapter - VAS 5190/3- to extraction house.
- Switch off ignition.



- Pull off the fuel supply line -1- and catch the fuel that escapes with a cloth. Unlock the quick coupling and disconnect
⇒ [“3.1 Separating push-on couplings”, page 232](#) .



- Connect the fuel extraction device - VAS 5190- with the adapter for the fuel extraction - VAS 5190/3- to the fuel feed line.



Caution

Secure the earth cable of the fuel extraction device to a bare metal part of the body.

For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Roomster

- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Octavia II, Rapid NH

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

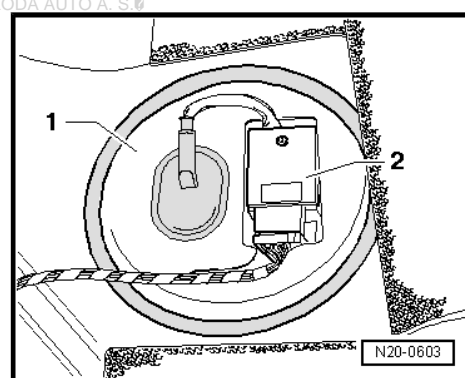
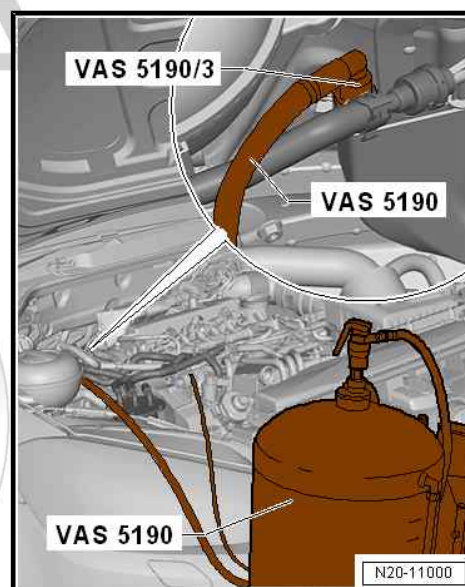
For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.

Commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

For vehicles Fabia II, Roomster, Rapid NH

- Unclip cover -1- with the fuel pump control unit - J538- -2-.



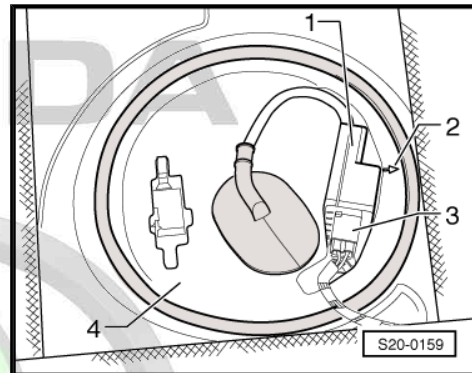


For the vehicles Octavia II, Yeti

- Unclip cover -4- with the fuel pump control unit - J538- -1-.

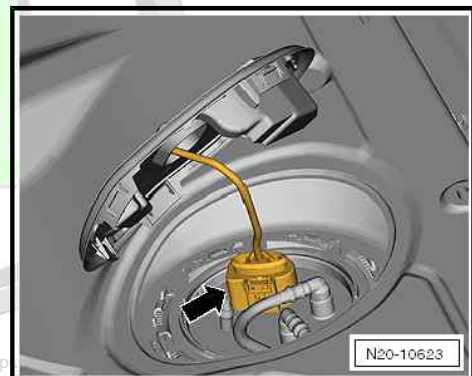
Vehicles with auxiliary heating

- Disconnect the plug connection of the dosing pump - V54- .



Continued for all vehicles

- Disconnect plug connection for fuel pump -arrow-.



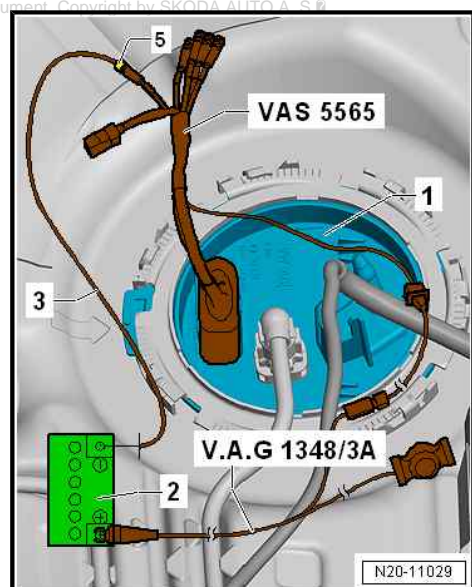
- Connect adapter - VAS 5565- to fuel delivery unit -1-.
- Connect remote control - V.A.G 1348/3A- to adapter - VAS 5565- and to battery positive terminal in engine compartment.
- Connect connection -5- (yellow) from the adapter - VAS 5565- with adapter cables -3- from the adapter set - V.A.G 1594 C- to the minus pole terminal on the battery.



Note

This step is only intended to ensure that the fuel pump runs when the engine is switched off.

- Open the fuel tank cap and clean around the fuel filler neck.
- Unscrew the cap from the fuel filler neck.
- Operate the remote control - V.A.G 1348/3A- and the shut-off tap on the fuel extraction device - VAS 5190- until the fuel tank is emptied.



Caution

The fuel pump must not run »dry«.

1.6.2 If the fuel pump has a fault, and the fuel tank is filled by more than $\frac{3}{4}$ if there is a fault to the fuel pump.

Procedure does not apply for Yeti vehicles with fuel tank version II.

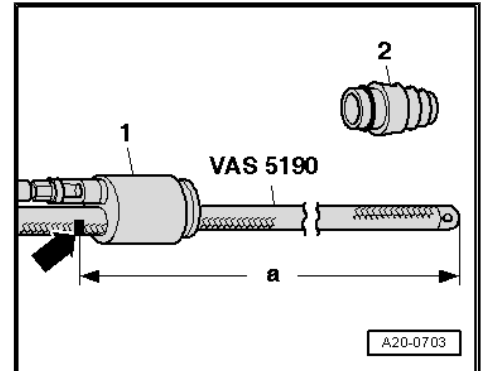
Special tools and workshop equipment required

◆ Fuel extraction device , e.g. -VAS 5190-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system ⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- Remove cone of valve -2- from the cylinder end piece -1- of the fuel extraction device - VAS 5190- .

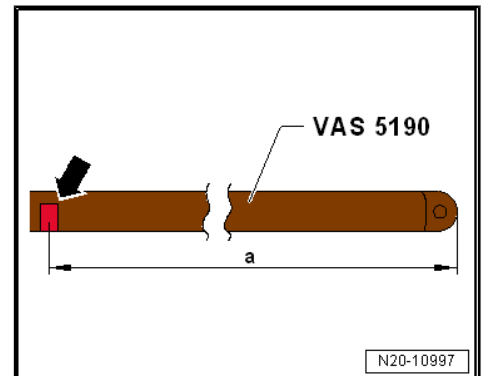


- Make a mark -arrow- on hose with insulating tape at distance -a- = 1,180 mm from end of extraction hose.
- Open the fuel tank cap and clean around the fuel filler neck.
- Unscrew the cap from the fuel filler neck.



Caution

Secure the earth cable of the fuel extraction device to a bare metal part of the body.

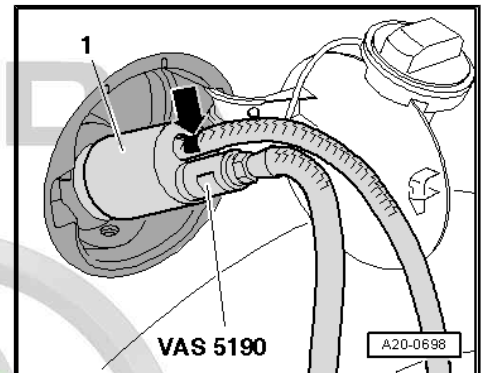


- Screw the cylinder end piece -1- of the fuel extraction device - VAS 5190- onto the filler tube of the fuel tank.
- Push extraction hose into fuel tank until marking -arrow- coincides with cylinder end piece -1-.



Note

A ball valve -2- is located at the bottom of the filler neck in the fuel tank -1-; it must not be damaged by the extraction hose -3-. Therefore, the hose must only be pushed in up to the previously made marking -arrow-.



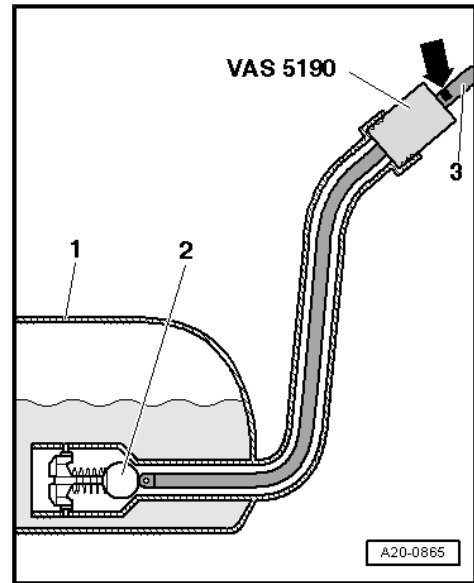


- Drain the fuel tank through the filler neck as much as possible.
- Carefully pull out the extraction hose.



Note

- ◆ When no more fuel is extracted, the fuel tank is emptied just enough for the sender flange to be opened safely.
- ◆ When working on the fuel delivery unit or on the fuel gauge sender display, proceed as follows
⇒ "1.6.3 Fuel tank when fuel pump has a fault and when the fuel tank is filled by less than 3/4 - Fabia II, Roomster, Rapid NH, Octavia II and Yeti with fuel tank version I", page 180.



1.6.3 Fuel tank when fuel pump has a fault and when the fuel tank is filled by less than $\frac{3}{4}$ - Fabia II, Roomster, Rapid NH, Octavia II and Yeti with fuel tank version I

Special tools and workshop equipment required

- ◆ Fuel extraction device, e.g. -VAS 5190-
- ◆ Wrench for union nut - T10202- or -MP1-227 (3217)-
- ◆ Removal wedge - 3409-

Safety precautions when working on the fuel supply system
⇒ "2.2 Safety precautions when working on fuel supply system", page 3.

Observe cleanliness requirements when working on the fuel system
⇒ "3.1 Rules of cleanliness", page 7.

- Switch off ignition and all electrical loads, and pull out ignition key.

For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

For vehicles Roomster

- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

For vehicles Octavia II, Rapid NH

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

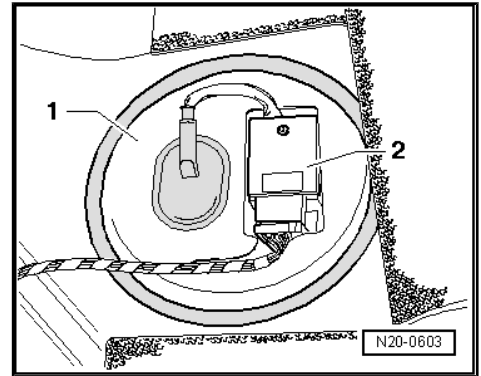
For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

For vehicles Fabia II, Roomster, Rapid NH

- Unclip cover -1- with the fuel pump control unit - J538- -2-.



For the vehicles Octavia II, Yeti

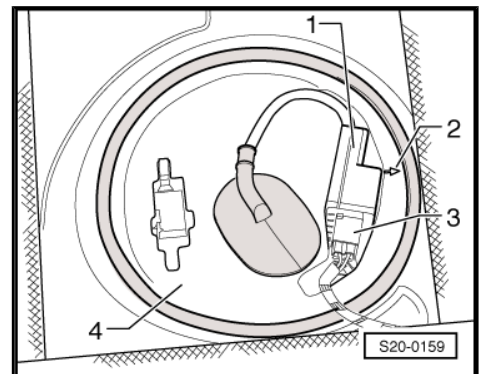
- Unclip cover -4- with the fuel pump control unit - J538- -1-.

Vehicles with auxiliary heating

- Disconnect the plug connection of the dosing pump - V54- .

Continued for all vehicles

- Disconnect the plug from the fuel delivery unit.



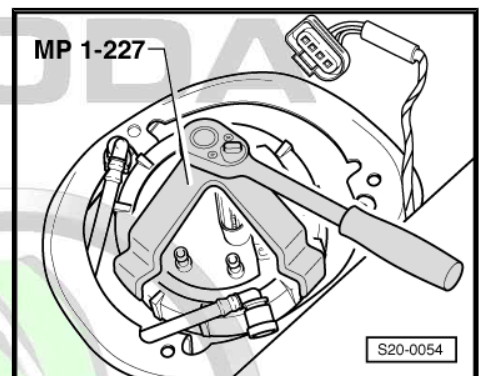
WARNING

The fuel line is under pressure! Wear safety goggles and safety clothing, in order to avoid injuries and skin contact. Place cleaning cloths around the connection point before detaching cable connections. Reduce pressure by carefully removing the wiring.

- Remove fuel feed line and the fuel return-flow line from the flange on the fuel delivery unit and collect escaping fuel with cloths. Unlock the quick coupling and disconnect
⇒ ["3.1 Separating push-on couplings", page 232](#) .

For vehicles Fabia II, Roomster, Rapid NH

- Unscrew union nut with wrench for union nut - MP1-227 (3217)- .



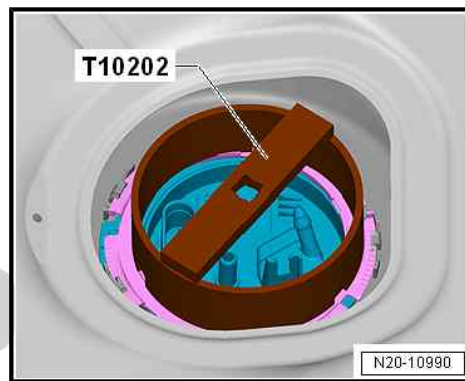


For the vehicles Octavia II, Yeti

- Open lock ring with the wrench - T10202- .

Vehicles fitted with auxiliary heating

- Attach fuel line to the auxiliary heating dosing pump - V54- to the closing flange.



Continued for all vehicles

- Carefully lift out fuel delivery unit flange -3-.



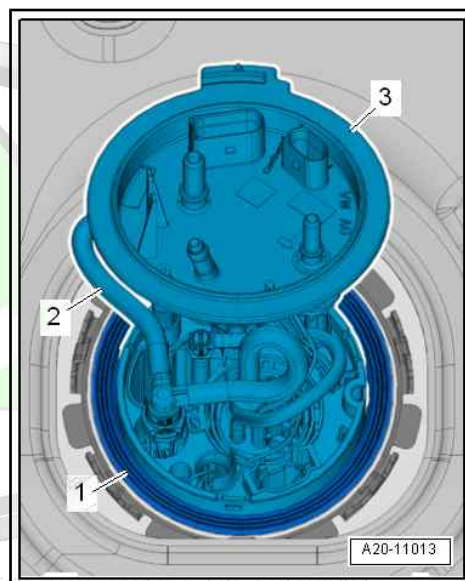
Caution

Secure the earth cable of the fuel extraction device to a bare metal part of the body.

- Insert suction hose of fuel extractor - VAS 5190- as far as possible into fuel tank.
- Extract fuel using the fuel extraction device - VAS 5190- .

If fuel tank needs only to be emptied, re-install the fuel delivery unit:

- ♦ Fabia II, Roomster, Rapid NH
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#) .
- ♦ Octavia II, Yeti (fuel tank version I)
⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”, page 198](#) .



1.6.4 Fuel tank when fuel pump has a fault and when the fuel tank is filled by less than $\frac{3}{4}$ - Yeti with fuel tank version II

Special tools and workshop equipment required

- ♦ Fuel extraction device , e.g. -VAS 5190-
- ♦ Wrench for union nut - T10202-
- ♦ Removal wedge - 3409-



WARNING

To prevent large quantities of fuel from leaking when removing the fuel delivery unit, the fuel tank must not be filled to more than a maximum of $\frac{1}{3}$.

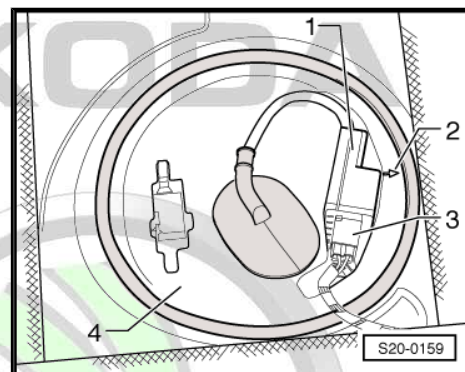
Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.
- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.
- Unclip cover -4- with the fuel pump control unit - J538- -1-.

Vehicles with auxiliary heating

- Disconnect the plug connection of the dosing pump - V54- .

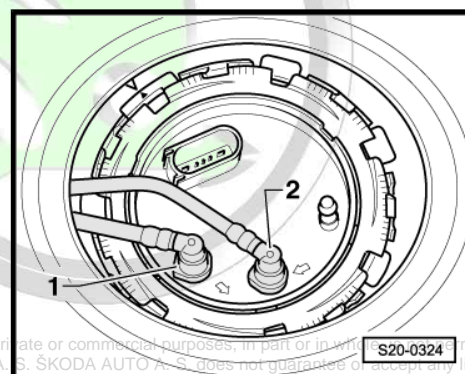


Continued for all vehicles

- Disconnect the plug as well as the black fuel feed line -1- and the blue fuel return-flow line -2- from the flange. Unlock the quick coupling and disconnect
⇒ ["3.1 Separating push-on couplings", page 232](#) .

Vehicles with auxiliary heating

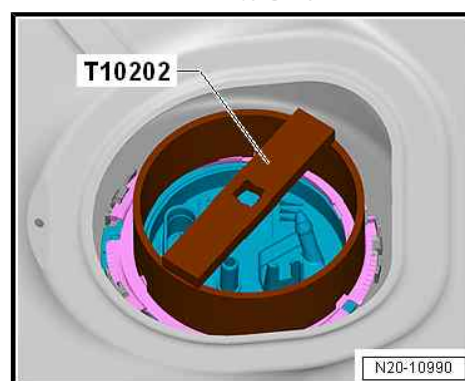
- Pull out the suction line for the dosing pump - V54- (slacken lower terminal).



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is prohibited unless authorised by ŠKODA AUTO A.S. ŠKODA AUTO A.S. does not guarantee or accept any liability with respect to the correctness of instructions.

Continued for all vehicles

- Open lock ring with the wrench - T10202- .





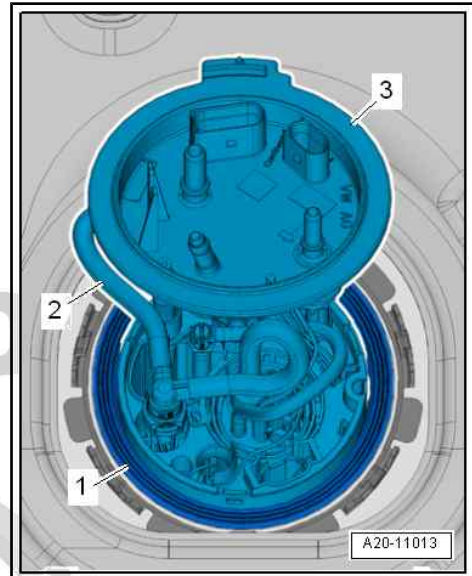
- Carefully lift out fuel delivery unit flange -3-.



Caution

Secure the earth cable of the fuel extraction device to a bare metal part of the body.

- Insert suction hose of fuel extractor - VAS 5190- as far as possible into fuel tank.
- Extract fuel using the fuel extraction device - VAS 5190- .
- Remove the left cover in direction of travel from the fuel gauge sender 2 - G169- .
- Disconnect the plug connection.



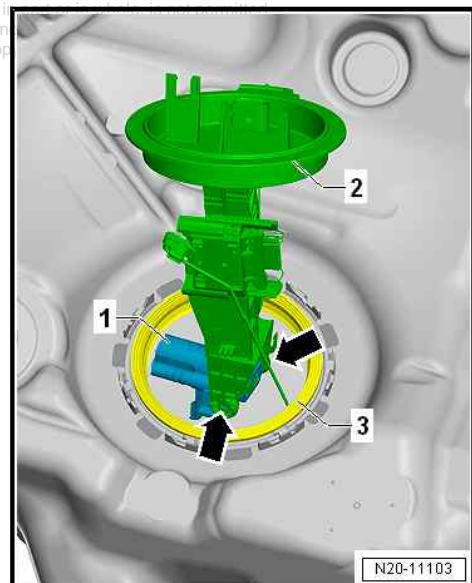
- Open lock ring with the wrench - T10202- .



- Carefully remove the closing flange -2- on the left together with the suction jet pump -1- from the fuel tank opening a little.
- Insert suction hose of fuel extractor - VAS 5190- as far as possible into fuel tank.
- Extract fuel using the fuel extraction device - VAS 5190- .

When only emptying the fuel tank:

- Reinstall the fuel delivery unit
⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)", page 200](#) .
- Install the fuel gauge sender 2 - G169- again
⇒ ["2.6 Removing and installing fuel gauge sender 2 G169 \(Yeti - fuel delivery unit version II\)", page 204](#) .



1.7 Removing and installing the fuel tank (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ♦ Engine/gearbox jack , e.g. -V.A.G 1383 A-

Removing

- The fuel tank must be empty for weight reasons when removing it. If necessary, extract fuel from the fuel tank
⇒ ["1.6 Drain the fuel tank", page 176](#) .



Note

- ◆ *Safety precautions when working on the fuel supply system*
⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) .
- ◆ *Observe cleanliness requirements when working on the fuel system* ⇒ ["3.1 Rules of cleanliness", page 7](#) .
- Switch off ignition and all electrical loads, and pull out ignition key.

For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Roomster

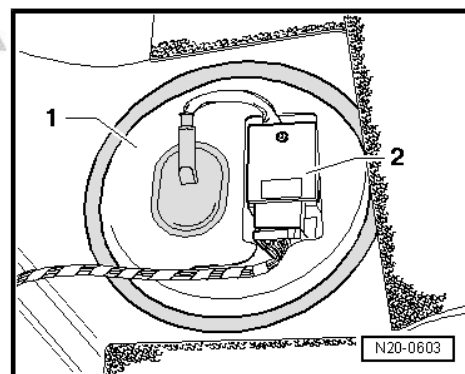
- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Rapid NH

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

Continued for all vehicles

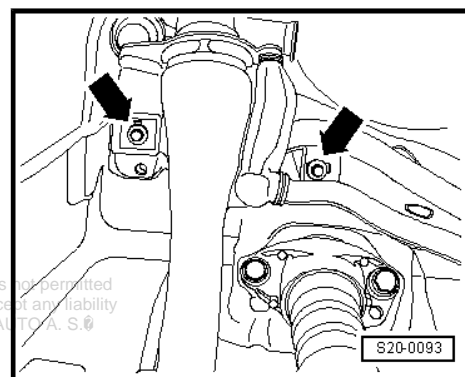
- Unclip cover -1- with the fuel pump control unit - J538- -2-.
- Disconnect the plug from the fuel delivery unit.
- Clean area around fuel filler neck.
- Unscrew right rear wheel.
- Remove the rear right wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Open fuel tank flap and unscrew cap from filler neck.



- Unscrew fixing screws on tank filler neck -arrows-.

For vehicles Fabia II

- Remove both ventilation lines
⇒ ["5.1 Summary of components - activated charcoal filter system, Fabia II", page 240](#) , Pos. -5- and -6- from activated charcoal filter system.



For vehicles Roomster, Rapid NH

- Remove both ventilation lines
⇒ ["5.2 Summary of components - activated charcoal filter system, Roomster, Rapid NH", page 241](#) , Pos. -6- and -7- from activated charcoal filter system.

Continued for all vehicles

- Removing rear axle ⇒ Chassis; Rep. gr. 42 .

For vehicles Roomster, Rapid NH

- Remove middle and rear part of exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#) .



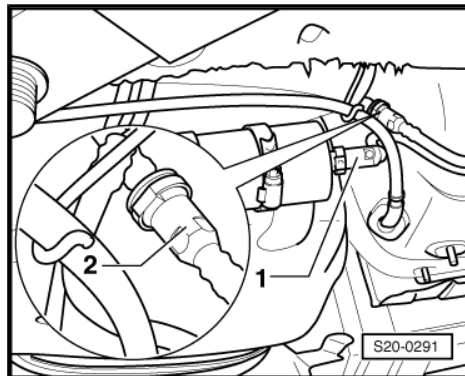
Continued for all vehicles



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

- Disconnect the feed line -1- and the vent line -2-
⇒ [“3.1 Separating push-on couplings”, page 232](#) .
- Support the fuel tank using the engine and gearbox jack - V.A.G 1383 A- .



For vehicles Fabia II

- Unscrew tensioning strap for fuel tank.
- Unscrew the fixing screws from the fuel tank.

For vehicles Roomster, Rapid NH

- Unscrew tensioning straps and fixing screw of fuel tank
⇒ [“1.2 Summary of components - fuel tank, Roomster, Rapid NH”, page 168](#) , Pos. -20-.
- Remove heat shield for exhaust pipe from fuel tank.

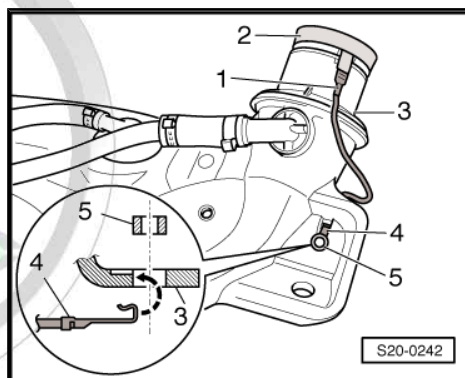
Continued for all vehicles

- Carefully lower the engine/gearbox jack -V.A.G 1383 A- and remove the fuel tank with the assistance of a second mechanic.

Installing

- Check both earth connections for corrosion, if necessary remove corrosion.
- Check fitting position of the earth lead -1-.
- The plug -1- must be firmly fitted to the metal plate ring -2-.
- The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.

Installation is carried out in the reverse order. When installing, observe the following:



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

For vehicles Rapid NH



Note

- ◆ Make sure that the heat shield for fuel tank -1- does not collide with the tunnel-heat shield -2- when installing the fuel tank.
- ◆ The tunnel-heat shield -2- must slightly overlap with the fuel tank tunnel-heat shield in direction of travel -C-.

Continued for all vehicles

- ◆ Lay the vent and fuel lines without any kinks.
- ◆ Do not mix-up the feed line and the return-flow line (the return-flow line is blue, the feed line is black).
- ◆ Make sure the line connections fit tightly.
- ◆ After installing the fuel tank, check whether the lines are also clipped in place on the fuel tank.



DANGER!

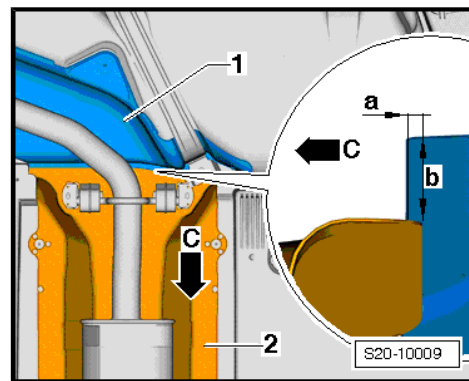
Risk of electrostatic charge.

- ◆ After installation, check electrical connection using an ohm-meter.
- ◆ Check the connection of the metal ring on the fuel filler neck with a bare metal part of the body.
- Specified value approx. 0 ohm.



DANGER!

Risk of fuel container explosion on fuel pump start-up!



After installing a new or completely emptied fuel tank, you must replenish a minimum of 5 litres of fuel right away.

- Refill at least 5 litres of fuel.

1.8 Removing and installing the fuel tank (Octavia II, Yeti - version I)

Special tools and workshop equipment required

- ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-

Removing

- The fuel tank must be empty for weight reasons when removing it. If necessary, extract fuel from the fuel tank
⇒ [“1.6 Drain the fuel tank”, page 176](#) .

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.
- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.



- Unclip cover -4- with the fuel pump control unit - J538- -1-.

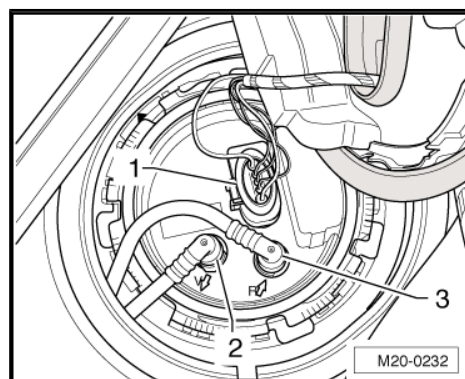
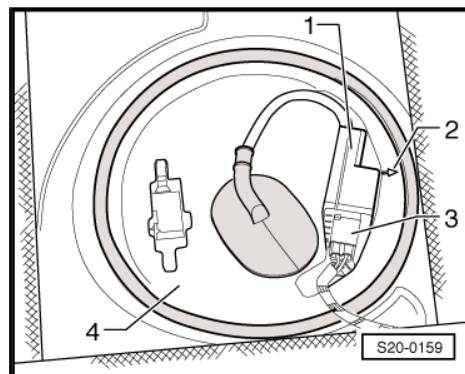


Note

For vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.

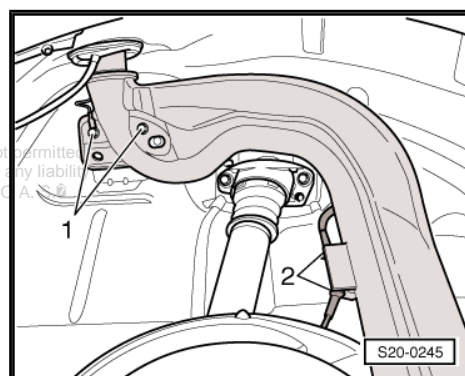
ŠKODA

- Disconnect plug -1- from the fuel delivery unit.
- Clean area around fuel filler neck.
- Unscrew right rear wheel.
- Remove the rear right wheelhouse liner ⇒ Body Work; Rep. gr. 66 .



- Remove screws -1- for filler neck on the body.
- Unclip the electrical cable from the bracket -2- at the top and bottom of the filler neck.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

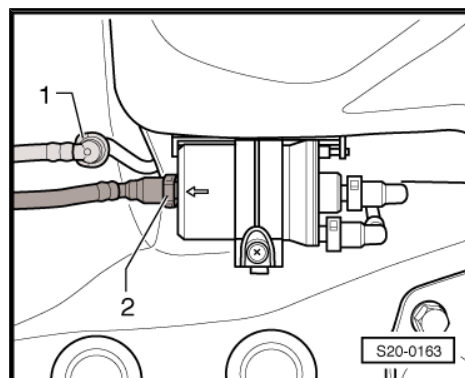


- Disconnect vent line -1- (white) and fuel feed line -2- (black) at the connection point.



Note

- ♦ *For vehicles with auxiliary heating, the fuel line for the dosing pump - V54- must also be disconnected.*
- ♦ *Press in the securing ring in order to unlock the line.*
- Remove middle and rear part of exhaust system
⇒ ["1.5 Summary of components - Middle and rear part of the exhaust system Octavia II", page 301 .](#)

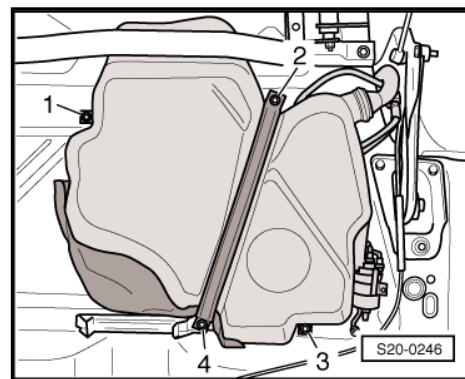


- Unscrew securing bolts -2- and -4- and remove tensioning strap.
- Support the fuel tank using the engine/gearbox jack - V.A.G 1383 A- .
- Unscrew securing bolts -1- and -3-.
- Slightly lower the fuel tank.



Note

The filler neck must be "extracted" between body and rear axle. Lift fuel tank down from the engine and gearbox jack - V.A.G 1383 A- with a 2nd mechanic.

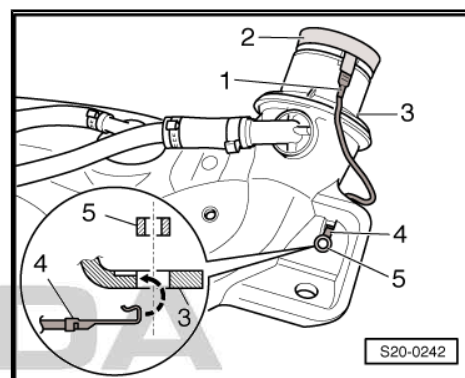


Installing

- Check both earth connections for corrosion, if necessary remove corrosion.
- Check fitting position of the earth lead -1-.
- The plug -1- must be firmly fitted to the metal plate ring -2-.
- The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.
- Pull through the filler neck between the body and the rear axle with the help of a second mechanic. Then position the fuel tank onto the engine/gearbox jack - V.A.G 1383 A- .

Installation is carried out in the reverse order. When installing, observe the following:

- ◆ Lay the vent and fuel lines without any kinks.
- ◆ Do not mix-up the feed line and the return-flow line (the return-flow line is blue, the feed line is black).
- ◆ Make sure the line connections fit tightly.
- ◆ Check earth connection of fuel tank/body at filler neck.
- ◆ After installing the fuel tank, check whether the lines are also clipped in place on the fuel tank.





- Clip on cover -4- with fuel pump control unit - J538- -1-.
- The arrow -2- on the cover points in direction of travel.



DANGER!

Risk of electrostatic charge.

- ◆ After installation, check electrical connection using an ohm-meter.
- ◆ Check the connection of the metal ring on the fuel filler neck with a bare metal part of the body.
- Specified value approx. 0 ohm.



DANGER!

Risk of fuel container explosion on fuel pump start-up!

After installing a new or completely emptied fuel tank, you must replenish a minimum of 5 litres of fuel right away.

- Refill at least 5 litres of fuel.

1.9 Removing and installing the fuel tank (Yeti - version II)

Special tools and workshop equipment required

- ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-

Removing

- The fuel tank must be empty for weight reasons when removing it. If necessary, extract fuel from the fuel tank
⇒ ["1.6 Drain the fuel tank", page 176](#) .

Safety precautions when working on the fuel supply system

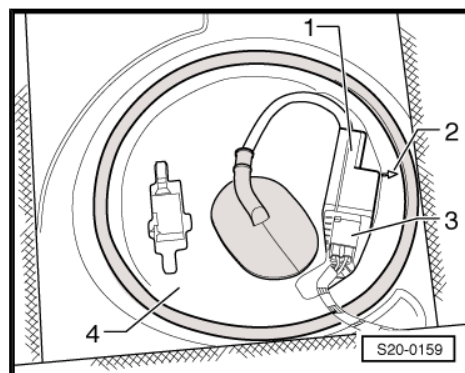
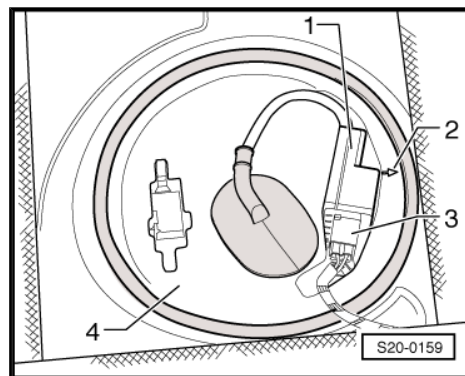
⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) . with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S. who, is not permitted to accept any liability

Observe cleanliness requirements when working on the fuel system ⇒ ["3.1 Rules of cleanliness", page 7](#) .

- Switch off all electrical components and withdraw key from ignition lock.
- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.
- Unclip cover -4- with the fuel pump control unit - J538- -1-.

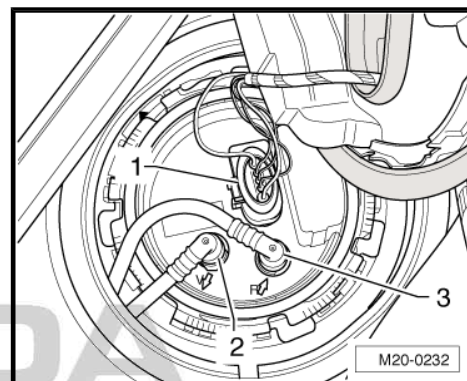
Vehicles with auxiliary heating

- Disconnect the plug connection of the dosing pump - V54- .
- Remove the rubber grommet from the cover of the fuel delivery unit and pull out the wiring.

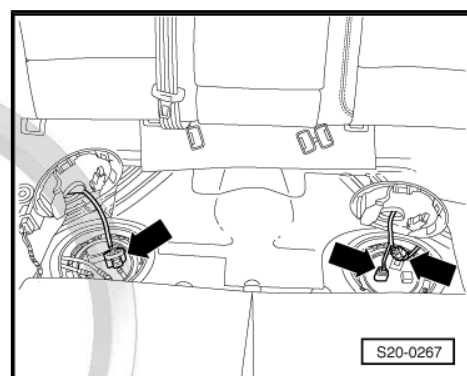


Continued for all vehicles

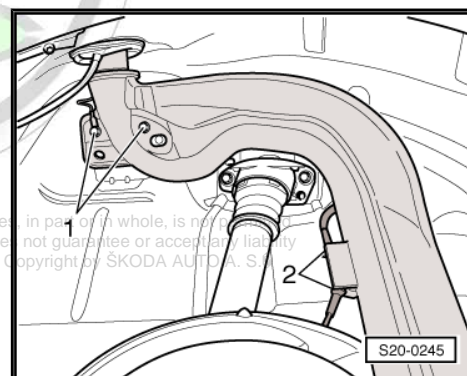
- Unplug connector -1- from fuel temperature sender.



- Remove the cover of fuel gauge sender 2 - G169- (in the figure on the right) and disconnect the connectors on the right -arrows-.
- Open the fuel tank cap and clean around the fuel filler neck.
- Unscrew the cap from the fuel filler neck.
- Seal the opening with a clean piece of foam to prevent the ingress of foreign bodies.
- Remove the rear right wheelhouse liner ➔ Body Work; Rep. gr. 66 .



- Remove screws -1- for filler neck on the body.
- Unclip the electrical cable from the bracket -2- at the top and bottom of the filler neck.



- Disconnect vent line -1- (white) and fuel feed line -2- (black) at the connection point.

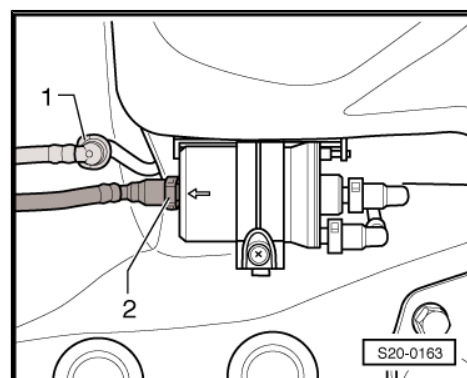


Note

Press in the securing ring in order to unlock the line.

Vehicles with auxiliary heating

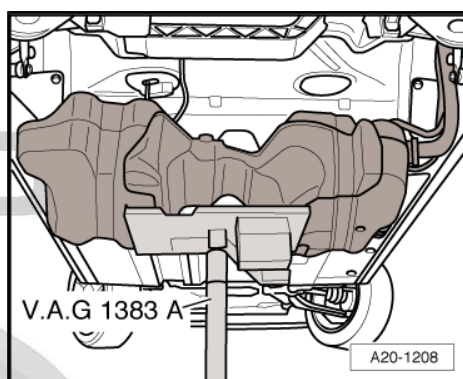
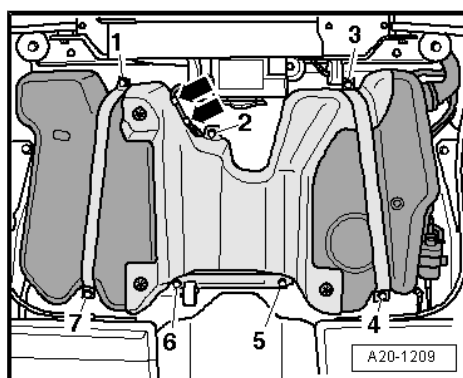
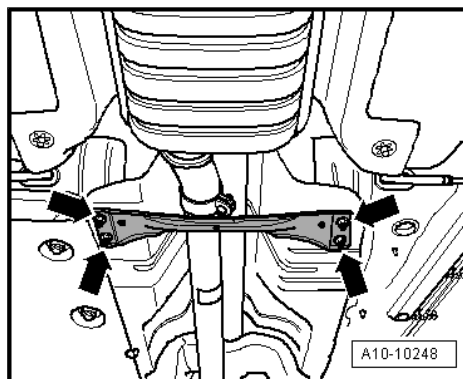
- Disconnect the fuel line from the dosing pump - V54- .





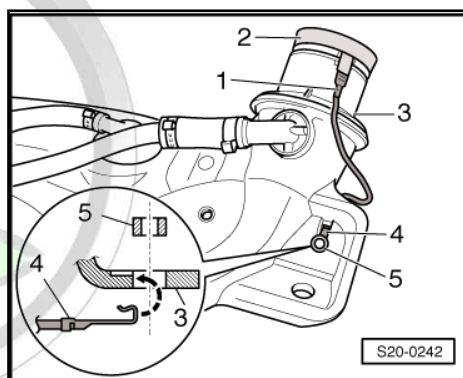
Continued for all vehicles

- Remove rear tunnel bridge -arrows-.
 - Unhook the rear silencer from two retaining straps.
 - Slacken nuts of clamping sleeve.
 - Remove screws for rear exhaust pipe hanger.
-
- Remove the rear silencer.
 - First unscrew the screws -2-, -5- and -6-.
 - Support the fuel tank using the engine and gearbox jack - V.A.G 1383 A- .
 - Unscrew the screws for the tensioning straps -1-, -3-, -4- and -7-.
-
- Slightly lower the fuel tank using the engine and gearbox jack - V.A.G 1383 A- .
 - Then remove the fuel tank from the engine/gearbox jack - V.A.G 1383 A- and pull through the filler neck between the body and the rear axle with the help of a second mechanic.



Installing

- Check both earth connections for corrosion, if necessary remove corrosion.
-
- Check fitting position of the earth lead -1-.
 - The plug -1- must be firmly fitted to the metal plate ring -2-.
 - The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.
 - Pull through the filler neck between the body and the rear axle with the help of a second mechanic. Then position the fuel tank onto the engine/gearbox jack - V.A.G 1383 A- .



Installation is carried out in the reverse order. When installing, observe the following:

- ◆ Lay the vent and fuel lines without any kinks.
- ◆ Do not mix-up the feed line and the return-flow line (the return-flow line is blue, the feed line is black).
- ◆ Make sure the line connections fit tightly.
- ◆ Check the earth connection of the fuel tank at the body on the filler neck.
- ◆ After installing the fuel tank, check whether the lines are also clipped in place on the fuel tank.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

- Clip on cover -4- with fuel pump control unit - J538- -1-.
- The arrow -2- on the cover points in direction of travel.



DANGER!

Risk of electrostatic charge.

- ◆ After installation, check electrical connection using an ohm-meter.
- ◆ Check the connection of the metal ring on the fuel filler neck with a bare metal part of the body.
- Specified value approx. 0 ohm.

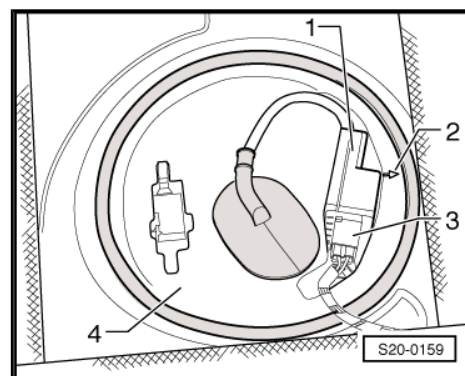


DANGER!

Risk of fuel container explosion on fuel pump start-up!

After installing a new or completely emptied fuel tank, you must replenish a minimum of 5 litres of fuel right away.

- Refill at least 5 litres of fuel.



ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



2 Fuel pump

⇒ [“2.1 Summary of components - fuel pump G6 and fuel gauge sender”, page 194](#)

⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#)

⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”, page 198](#)

⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”, page 200](#)

⇒ [“2.5 Removing and installing the fuel gauge sender G ”, page 203](#)

⇒ [“2.6 Removing and installing fuel gauge sender 2 G169 \(Yeti - fuel delivery unit version II\)”, page 204](#)

⇒ [“2.7 Removing and installing the suction jet pump \(Yeti - fuel delivery unit version II\)”, page 206](#)

⇒ [“2.8 inspecting fuel pump”, page 206](#)

2.1 Summary of components - fuel pump - G6- and fuel gauge sender

⇒ [“2.1.1 Summary of components - fuel system pressurisation pump G6 with lock ring”, page 194](#)

⇒ [“2.1.2 Summary of components - fuel system pressurisation pump G6 with union nut”, page 196](#)

2.1.1 Summary of components - fuel system pressurisation pump - G6- with lock ring

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1 - Lock ring

- ☐ 110 Nm

2 - Fuel line

- ☐ Black, feed line to engine
- ☐ do not kink
- ☐ disconnect and connect
⇒ ["3.1 Separating push-on couplings"](#),
[page 232](#)

3 - Fuel line

- ☐ Blue, return line
- ☐ do not kink
- ☐ disconnect and connect
⇒ ["3.1 Separating push-on couplings"](#),
[page 232](#)

4 - Flange

5 - Fuel gauge sender - G-

- ☐ Removing and installing
⇒ ["2.5 Removing and installing the fuel gauge sender G"](#), [page 203](#)

6 - Fuel pump - G6-

- ☐ Checking fuel pump electrics ⇒ Vehicle diagnostic tester
- ☐ inspecting fuel pump
⇒ ["2.8 inspecting fuel pump"](#), [page 206](#)
- ☐ Removing and installing

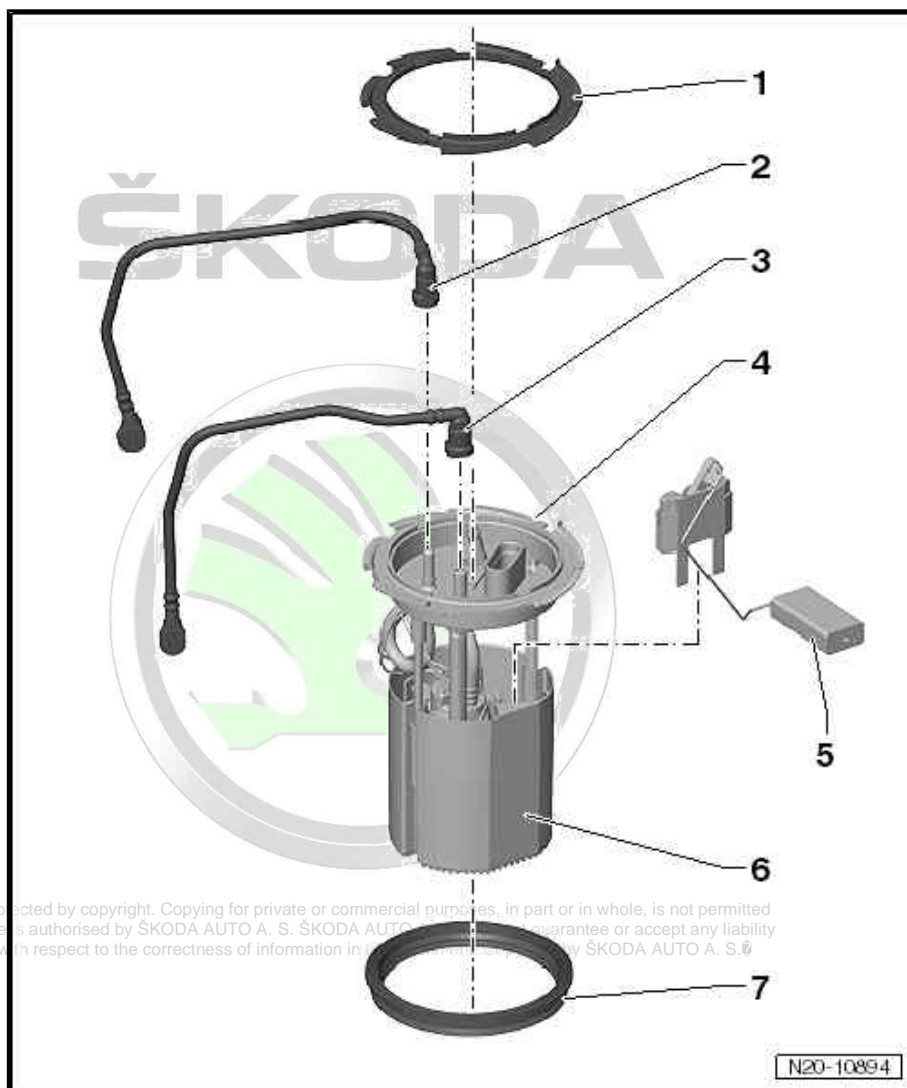
◆ Octavia II, Yeti

⇒ ["2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)"](#), [page 198](#)

◆ Yeti ⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)"](#), [page 200](#)

7 - Sealing ring

- ☐ Replace after removal
- ☐ install when dry



2.1.2 Summary of components - fuel system pressurisation pump - G6- with union nut

1 - Fuel pump - G6-

- ☐ Checking fuel pump electrics ⇒ Vehicle diagnostic tester
- ☐ inspecting fuel pump ⇒ ["2.8 inspecting fuel pump", page 206](#)
- ☐ Removing and installing ⇒ ["2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)", page 196](#)

2 - Sealing ring

- ☐ Replace after removal
- ☐ to be inserted dry into the opening of the fuel tank
- ☐ only moisten the seal of the flange with fuel for fitting purposes

3 - Union nut

- ☐ Union nut, 80 Nm

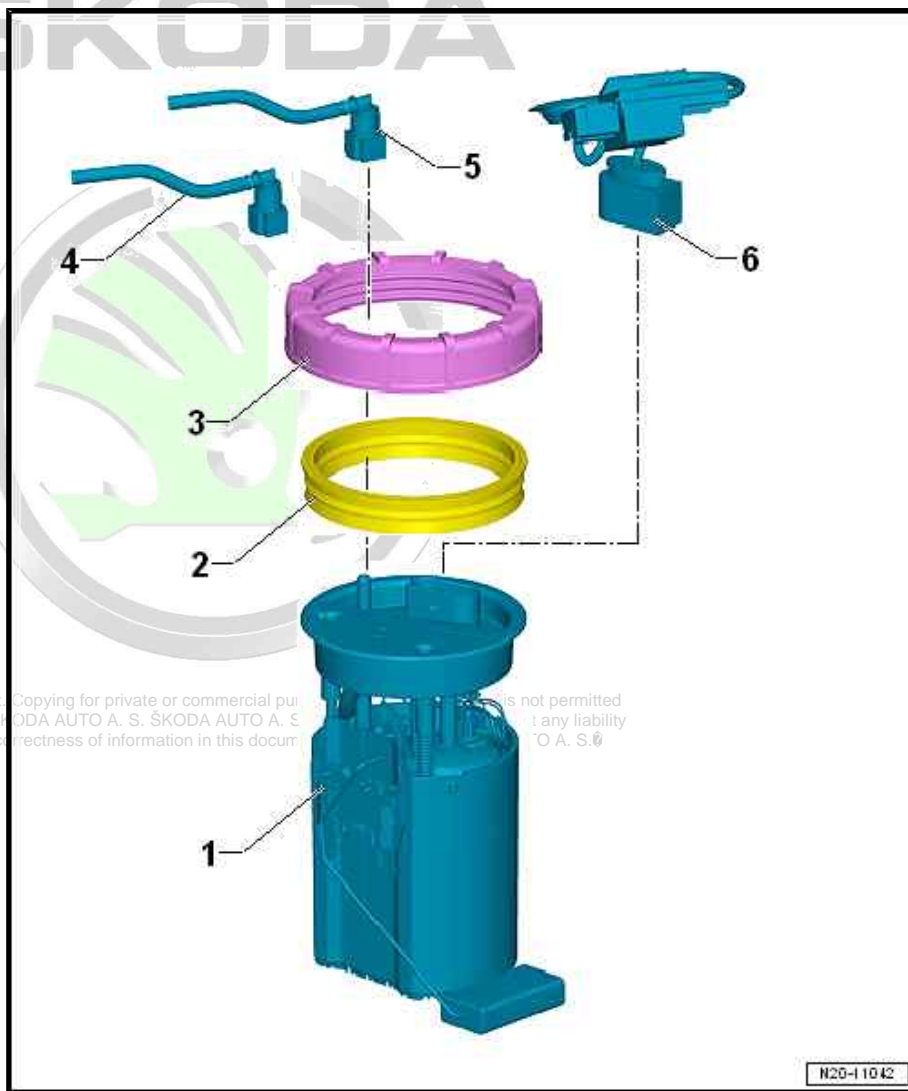
4 - Fuel line

- ☐ Blue, return line
- ☐ do not kink
- ☐ disconnect and connect ⇒ ["3.1 Separating push-on couplings", page 232](#)

5 - Fuel line

- ☐ Black, feed line to engine
- ☐ do not kink
- ☐ disconnect and connect ⇒ ["3.1 Separating push-on couplings", page 232](#)

6 - Fuel pump control unit - J538-



2.2 Removing and installing the fuel delivery unit (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Wrench for union nut - MP1-227 (3217)-

Removing

- The fuel tank must not be more than $\frac{3}{4}$ full.



Note

- ◆ If necessary, extract fuel from the fuel tank
⇒ "1.6 Drain the fuel tank", page 176.
- ◆ Observe the safety instructions before starting fitting work
⇒ "2.2 Safety precautions when working on fuel supply system", page 3.
- ◆ Observe rules for cleanliness
⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and all electrical loads, and pull out ignition key.

For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

For vehicles Roomster

- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

For vehicles Rapid NH

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

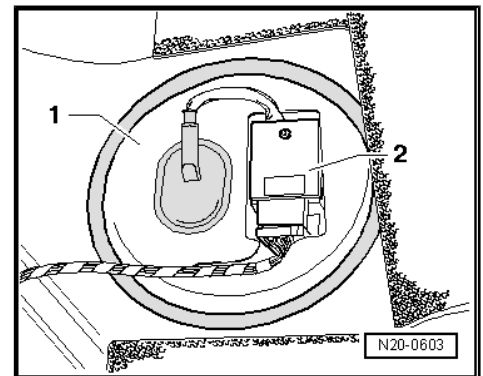
Continued for all vehicles

- Unclip cover -1- with the fuel pump control unit - J538- -2-.
- Disconnect the plug, the feed and return flow line from the flange of the fuel delivery unit.



Note

Press in the securing ring in order to unlock the line.



WARNING

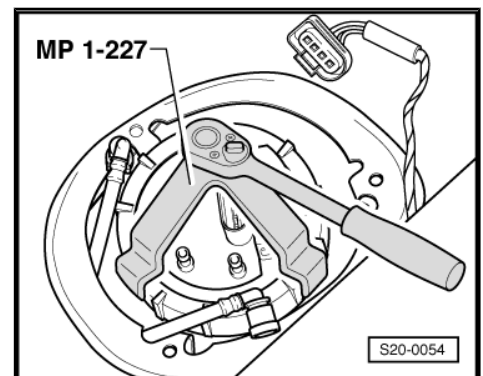
Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

- Unscrew union nut with wrench for union nut - MP1-227 (3217)-.



Note

- ◆ Remove fuel pump from the fuel tank so that the electric cables and fuel hoses are not damaged and the float arm of the sender for fuel gauge display - G- is not bent.
- ◆ You must empty the old delivery unit before disposing of it if you wish to replace the fuel delivery unit.
- Pull the fuel delivery unit out of the opening of the fuel tank.



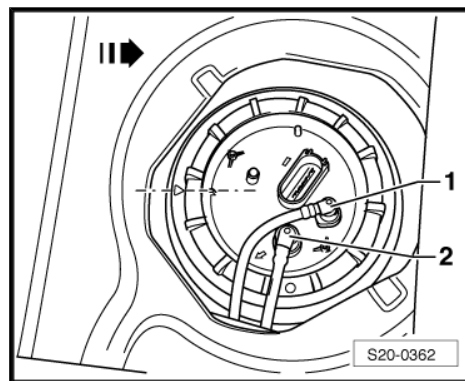
Installing

Installation of the fuel delivery unit occurs in reverse order to removal. Pay attention to the following:



Note

- ◆ When inserting the fuel delivery unit, ensure that the fuel gauge sender is not bent.
- ◆ Insert dry sealing ring of the fuel delivery unit into the opening of the fuel tank.
- ◆ Only moisten sealing ring with fuel before assembly of the fuel delivery unit.
- ◆ Observe installation position of flange of fuel delivery unit. The marking on the flange must be aligned with the marking on the fuel tank -arrows-.
- ◆ Do not interchange feed line and return-flow line.
- ◆ Make sure the fuel hoses fit tightly.
- ◆ After installing the fuel delivery unit, check whether the feed, return-flow and vent lines are clipped in place on the fuel tank.



Tightening torques

- ◆ Roomster, Rapid NH union nut
⇒ ["1.2 Summary of components - fuel tank, Roomster, Rapid NH", page 168](#) .
- ◆ Fabia II union nut
⇒ ["1.1 Summary of components - fuel tank, Fabia II", page 165](#) .

2.3 Removing and installing the fuel delivery unit (Octavia II, Yeti - fuel tank version I)

Special tools and workshop equipment required

- ◆ Key - T10202-

Removing

- The fuel tank must not be more than $\frac{3}{4}$ full.



Note

- ◆ If necessary, extract fuel from the fuel tank
⇒ ["1.6 Drain the fuel tank", page 176](#) .
- ◆ Observe the safety instructions before starting fitting work
⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) .
- ◆ Observe rules for cleanliness
⇒ ["3.1 Rules of cleanliness", page 7](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.

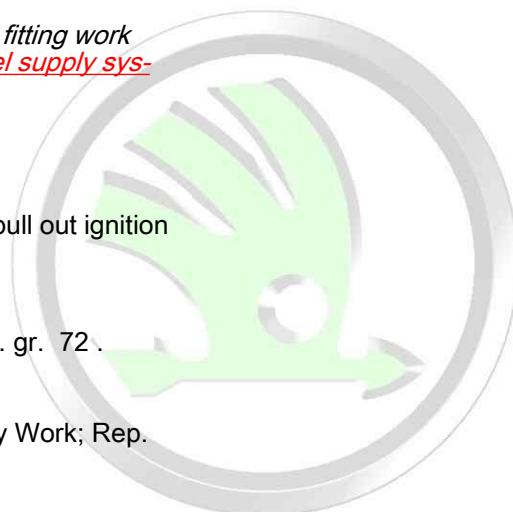
For the vehicles Octavia II

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.

ŠKODA



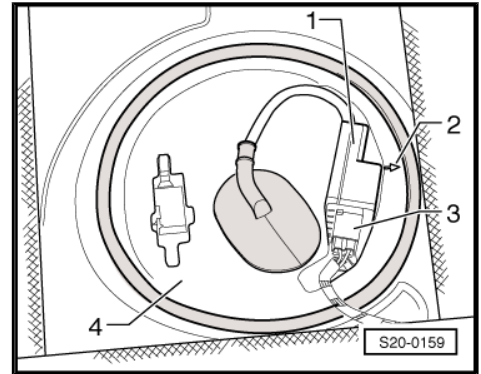
Continued for all vehicles

- Unclip cover -4- with the fuel pump control unit - J538- -1-.



Note

On vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.

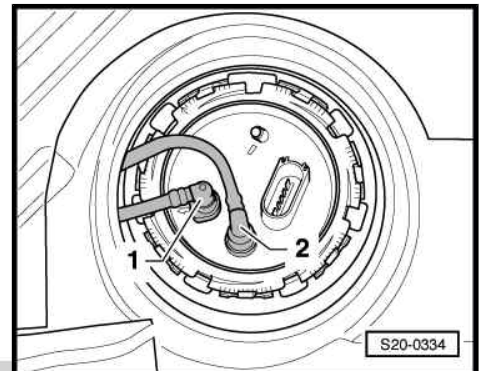


- Disconnect plug, black feed line -1- and blue return line -2-.



Note

- ◆ Press in the securing ring in order to unlock the line.
- ◆ For vehicles with auxiliary heating the suction line for the dosing pump - V54- must be pulled out additionally (open lower clamp).



- Open lock ring with the wrench - T10202- .



Note

- ◆ Remove fuel pump from the fuel tank so that the electric cables and fuel hoses are not damaged and the float arm of the sender for fuel gauge display - G- is not bent.
- ◆ You must empty the old delivery unit before disposing of it if you wish to replace the fuel delivery unit.

- Pull the fuel delivery unit out of the opening of the fuel tank.



Installing

Installation is carried out in the reverse order. When installing, observe the following:

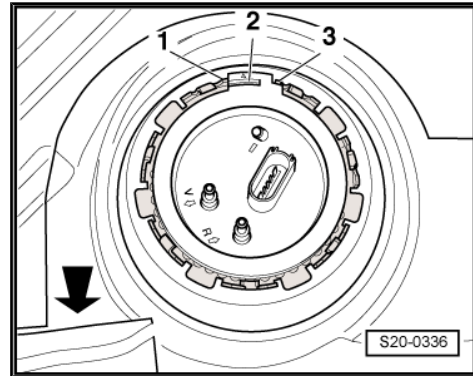
- Insert the new dry gasket ring for the flange into the opening of the fuel tank and moisten only from the inside with fuel for installing the closing flange.
- Insert the fuel pump into the fuel tank in such a way that the float arm of the sender for the fuel gauge display - G- is not bent.
- Press the closing flange downwards, install the lock ring and connect the fuel lines.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the use of the information in this document. Copyright by ŠKODA AUTO A. S.



Note

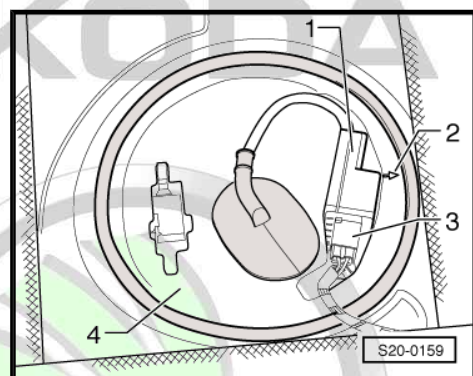
- ◆ Observe installation position of flange of fuel delivery unit. The peg -2- on the fuel delivery unit must be between the pegs -1- and -3-. The -arrow- shows the direction of travel.
- ◆ Tighten lock ring.
- ◆ Do not interchange the black feed line with the blue return-flow line (arrows on the flange of the fuel delivery unit).
- ◆ Make sure the line connections and the plug fit tightly.
- ◆ After installing the fuel delivery unit, check whether the feed line and the return-flow line have also been clipped in place on the fuel tank.



- Clip on cover -4- with fuel pump control unit - J538- -1-.
- The arrow -2- on the cover points in direction of travel.

Tightening torques

- ◆ Lock ring
⇒ [“1.3 Overview of components - fuel tank version I, Octavia II, Yeti”, page 171](#) .



2.4 Removing and installing the fuel delivery unit (Yeti - fuel delivery unit version II)

Special tools and workshop equipment required

- ◆ Key - T10202-
- ◆ Protective gloves

Removing

- The fuel tank must not be more than $\frac{1}{3}$ full. Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .



Note

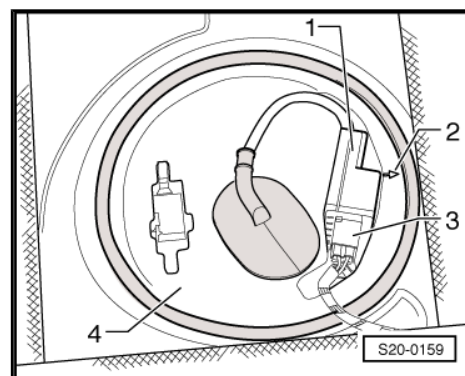
If necessary drain the fuel tank
⇒ [“1.6 Drain the fuel tank”, page 176](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.
- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.

- Unclip cover -4- with the fuel pump control unit - J538- -1-.

Vehicles with auxiliary heating

- Disconnect the plug connection of the dosing pump - V54- .



Continued for all vehicles

- Disconnect the plug as well as the black fuel feed line -1- and the blue fuel return-flow line -2- from the flange.

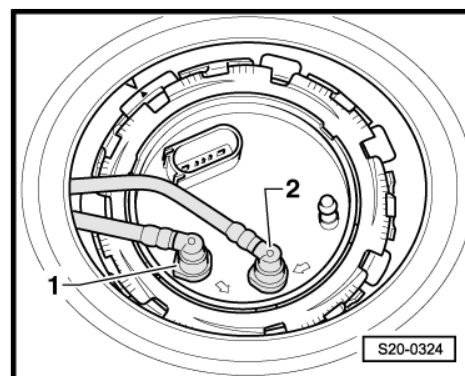


Note

Press in the securing ring in order to unlock the line.

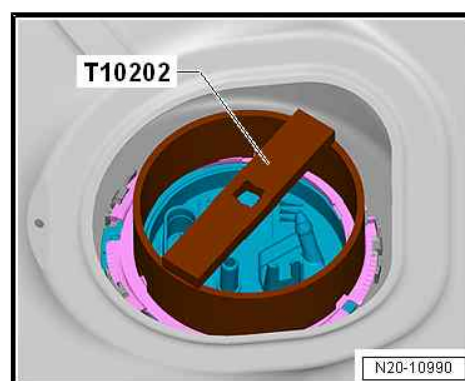
Vehicles with auxiliary heating

- Pull out the suction line for the dosing pump - V54- (slacken lower terminal).



Continued for all vehicles

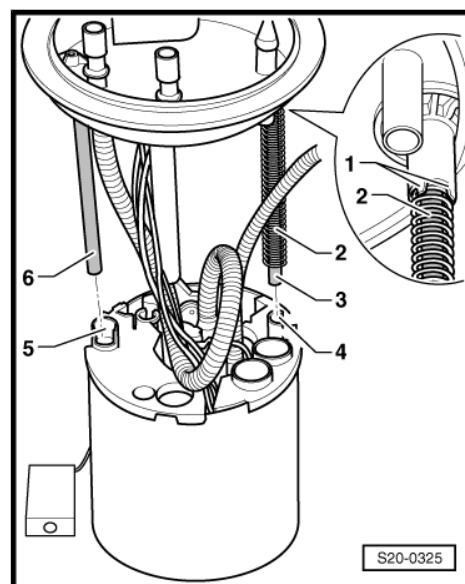
- Open lock ring with the wrench - T10202- .



- Slightly raise the closing flange and check if the spring -2- is still fastened on the flange -1-.

If the spring -2- is loose on the guide pipe -3-, hold it with your fingers while removing the closing flange.

- Pull closing flange and gasket ring for fuel pump out of the opening of the fuel tank and place to the side with the connected lines.
- Remove the suction jet pump from the fuel gauge sender 2 - G169-
⇒ "2.6 Removing and installing fuel gauge sender 2 G169 (Yeti - fuel delivery unit version II)", page 204 .





- Separate through the opening of the fuel tank the fuel line -1- to the suction jet pump, to do so press the release button.
- Disconnect the fuel delivery line -2- from the fuel delivery unit.



Note

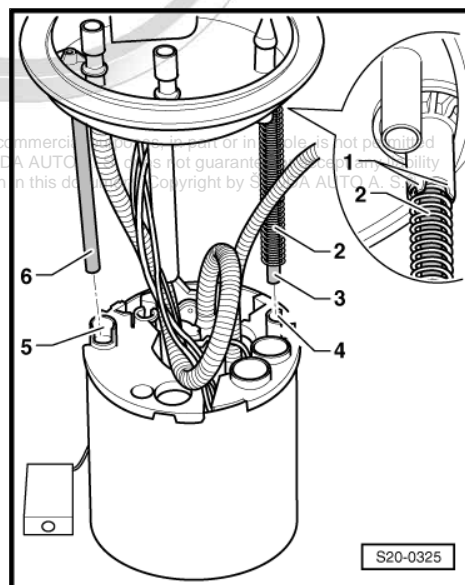
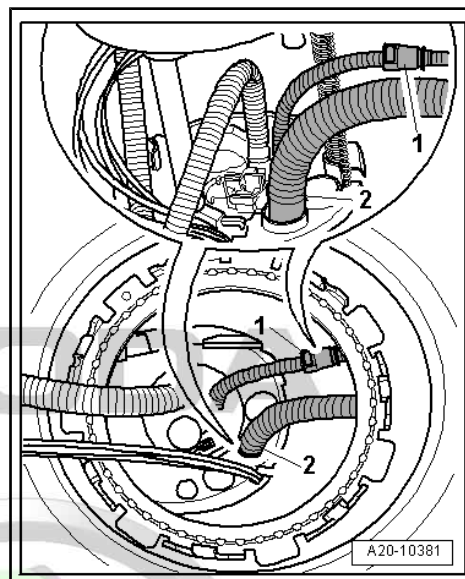
- ◆ *You must wear protective gloves for removing the fuel delivery unit.*
- ◆ *Remove fuel pump from the fuel tank so that the electric cables and fuel hoses are not damaged and the float arm of the sender for fuel gauge display - G- is not bent.*
- ◆ *You must empty the old delivery unit before disposing of it if you wish to replace the fuel delivery unit.*

- Pull the fuel delivery unit out of the opening of the fuel tank.

Installing

Installation is carried out in the reverse order. Pay attention to the following:

- Insert the new dry gasket ring for the flange into the opening of the fuel tank and moisten only from the inside with fuel for installing the closing flange.
- Insert the fuel delivery unit into the fuel tank with the closing flange placed to the side. Do not bend the float arm of the fuel gauge sender unit - G- while doing so.
- Install the fuel delivery unit and the fuel line.
- The spring -2- must be fastened to the retaining lugs -1- of the closing flange.
- First of all guide the guide pipe -3- into the guide bore -4-.
- Then lower the closing flange in such a way that the guide pipe -6- locks into the guide bore -5-.



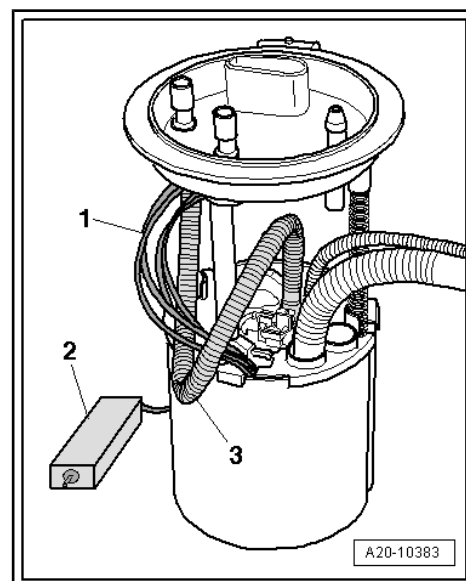


Note

Pay attention that the electrical cables -1- and the fuel feed line -3- are routed according to the illustration and the float arm -2- is not blocked.

- Press the closing flange down and bring it into the installation position.

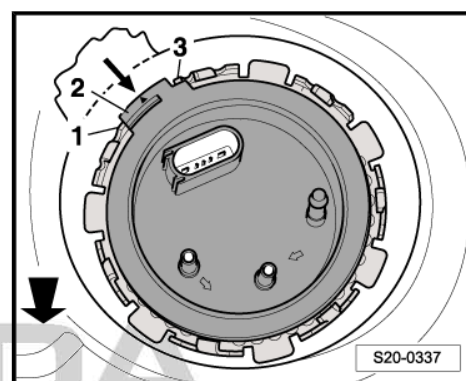
Further information:



- ◆ Fitting position of the fuel delivery unit: The peg -2- at the closing flange must be located between the pegs -1- and -3-. The -arrow- shows the direction of travel.
- ◆ Tighten lock ring.
- ◆ Do not interchange feed line and return-flow line.
- ◆ Make sure the fuel lines fit tightly.
- ◆ After installing the fuel delivery unit, check whether the feed line and the return-flow line are still clipped in place on the fuel tank.

Tightening torques

- ◆ Lock ring
⇒ ["1.4 Overview of components - fuel tank version II, Yeti", page 173](#) .



2.5 Removing and installing the fuel gauge sender - G-

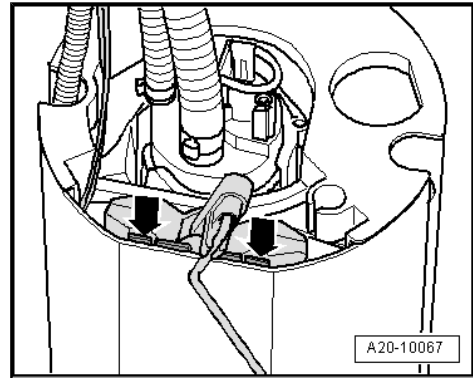
Removing

- Remove fuel delivery unit:
- ◆ Fabia II, Roomster, Rapid NH
⇒ ["2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)", page 196](#) .
- ◆ Octavia II, Yeti (version I.)
⇒ ["2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)", page 198](#) .
- ◆ Yeti (version II.)
⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)", page 200](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



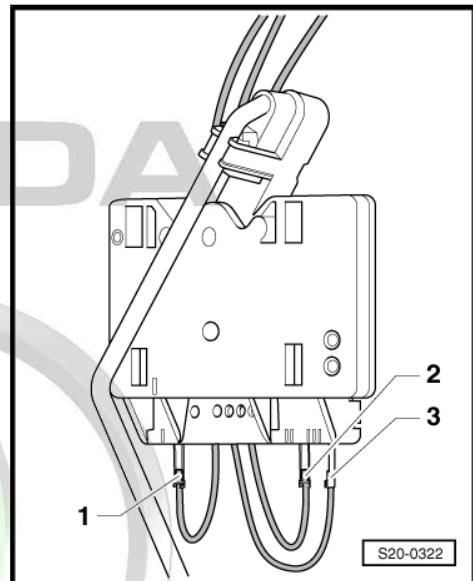
- Unlock the securing tabs -arrows- using a screwdriver and pull the fuel gauge sender - G- up and out.



- Unlatch and disconnect the plugs of the electrical cables -1- (brown), -2- (blue) and -3- (black).

Installing

- Connect the wiring and check correct installation of the plug.
- Insert the fuel gauge sender - G- into the guides on the fuel delivery unit and press down until it engages.
- Install fuel delivery unit
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#) .



2.6 Removing and installing fuel gauge sender 2 - G169- (Yeti - fuel delivery unit version II)

Special tools and workshop equipment required

- ◆ Key - T10202-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- The fuel tank must not be more than $\frac{1}{2}$ full.



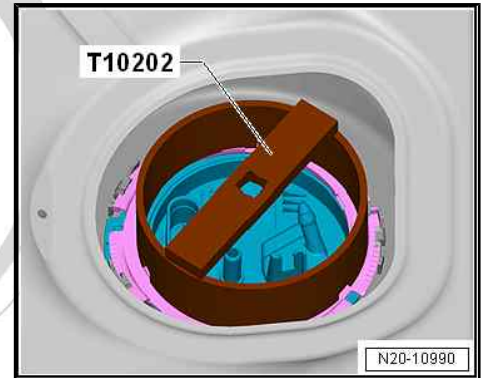
Note

- ◆ If necessary, extract fuel from the fuel tank
⇒ [“1.6 Drain the fuel tank”, page 176](#) .
- ◆ Make sure that the float arm of the fuel gauge transmitter 2 - G169- is not bent.

Removing

- Switch off all electrical components and withdraw key from ignition lock.

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.
- Remove the left cover in direction of travel from the fuel gauge sender 2 - G169- .
- Disconnect the plug connection.
- Open lock ring with the wrench - T10202- .



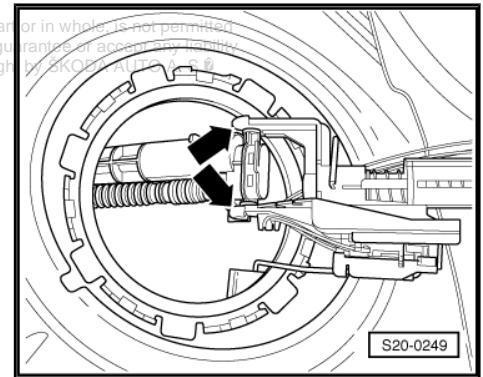
- Pull lightly Fuel gauge transmitter 2 - G169- out of the opening of the fuel tank, unlock the securing tabs -arrows- and disconnect the pump.
- Remove gasket ring.

Installing



Caution

When installing do not bend the float arm of the fuel gauge sender 2 - G169- .



- Insert fuel gauge sender 2 - G169 - into the fuel tank.
- Position the suction jet pump in the interior of the fuel tank onto the sender. The catches must click audibly.
- Insert new dry gasket ring for the flange into the opening of the fuel tank and only now moisten the inside (position of the flange) with fuel.
- Check fitting position for fuel gauge sender 2 - G169- ⇒ [page 174](#) .
- Check correct positioning of sealing ring.
- Tighten lock ring with wrench for union nut - T10202- .
- Mount plug.
- Install cover.
- Insert the floor covering under the rear seat bench.
- Install rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .

Tightening torques

- ◆ Lock ring
⇒ ["1.4 Overview of components - fuel tank version II, Yeti", page 173](#) .

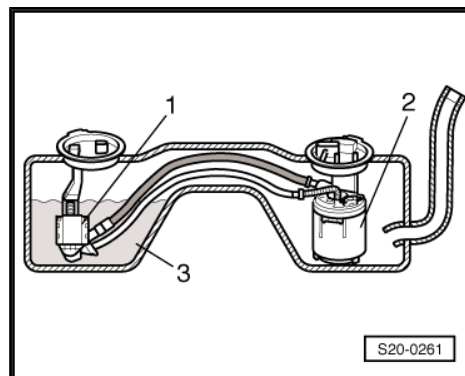


2.7 Removing and installing the suction jet pump (Yeti - fuel delivery unit version II)



Note

- ♦ The fuel tank is subdivided in a left and a right chamber. In order to pump the fuel out of the left chamber -3- of the fuel tank into the right chamber to the housing of the delivery unit -2-, a suction jet pump -1- is required.
- ♦ The version of the fuel tank requires that the fuel is pumped from the area of the fuel gauge sender 2 - G169- with a suction jet pump to the fuel delivery unit.
- ♦ A check is only to be carried out, if the engine stops because of fuel shortage, although the fuel gauge still indicates a fuel tank which is $\frac{1}{4}$ full.



- Remove fuel delivery unit
⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)", page 200](#) .
- Remove fuel gauge sender 2 - G169-
⇒ ["2.6 Removing and installing fuel gauge sender 2 G169 \(Yeti - fuel delivery unit version II\)", page 204](#) .
- Now the suction jet pump can be pulled out from the side of the fuel gauge sender 2 - G169- (on left in direction of travel).
- Check if the fuel lines are firmly connected to the suction jet pump and are not damaged.
- Check the suction jet pump additionally for possible contamination.

2.8 inspecting fuel pump

⇒ ["2.8.1 Check fuel pressure with pressure gauge V.A.G 1318 ", page 207](#)

⇒ ["2.8.2 Check fuel pressure with pressure gauge VAS 6550 ", page 209](#)

⇒ ["2.8.3 Check holding pressure with pressure gauge V.A.G 1318 ", page 213](#)

⇒ ["2.8.4 Check holding pressure with pressure gauge VAS 6550 ", page 215](#)

⇒ ["2.8.5 Check fuel flow rate with pressure gauge V.A.G 1318 ", page 219](#)

⇒ ["2.8.6 Check fuel flow rate with pressure gauge VAS 6550 ", page 223](#)

unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S. ©

Special tools and workshop equipment required

- ♦ Wrench for union nut - T10202- or -MP1-227 (3217)- .
- ♦ Pressure gauge , e.g. -V.A.G 1318- or pressure gauge , e.g. -VAS 6550-
- ♦ Pressure valve - VAS 6550/4-
- ♦ Adapter , e.g. -V.A.G 1318/11-
- ♦ Hose adapter , e.g. -V.A.G 1318/16-
- ♦ Adapter set , e.g. -V.A.G 1318/17A-
- ♦ Double connection piece , e.g. -V.A.G 1318/23-

- ◆ Remote control , e.g. -V.A.G 1348/3A- with adapter cable , e.g. -V.A.G 1348/3-3 -
- ◆ Voltage tester , e. g. -V.A.G 1527 B-
- ◆ Auxiliary measuring set, , e. g. -V.A.G 1594 C-
- ◆ Multimeter , e.g. -V.A.G 1715-
- ◆ Test instrument adapter/DSO (5-pin) , e.g. -VAS 5565-
- ◆ Measuring glass



Note

- ◆ *The adapter set - V.A.G 1318/17A- replaces the adapter set - V.A.G 1318/17- .*
- ◆ *Therefore, the figures in the description have not changed.*

2.8.1 Check fuel pressure with pressure gauge - V.A.G 1318-

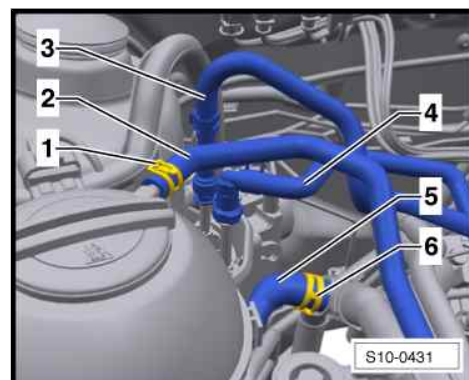
Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system ⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- The function of the fuel pump was checked ⇒ Vehicle diagnostic tester.

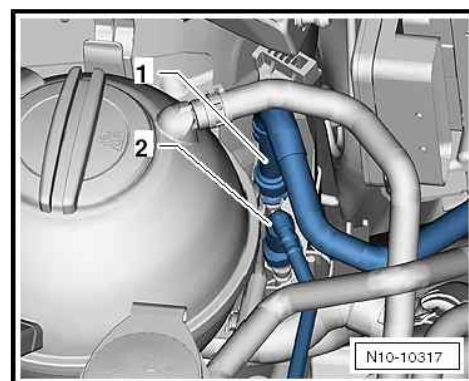
For vehicles Fabia II, Roomster, Rapid NH

- Pull out the fuel feed line -3- and catch the fuel which flows out with a cleaning cloth
⇒ [“3.1 Separating push-on couplings”, page 232](#) .



For the vehicles Octavia II, Yeti

- Remove the fuel feed line -1- (press in the securing ring to the top) and catch the fuel which flows out with a cleaning cloth.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



Continued for all vehicles

- Install the pressure gauge - V.A.G 1318 - with the adapter set - V.A.G 1318/17A- instead of the fuel feed line.
- Open shut-off cock of the pressure gauge. Level in position -A-.
- Switch the ignition on and off so often until the fuel pressure on the pressure gauge does no longer rise.
- Read off fuel pressure on pressure gauge.
- Specified value: 0.4 ... 0.7 MPa (4 ... 7.0 bar)

If the specified value is reached:

- Test holding pressure
⇒ [“2.8.3 Check holding pressure with pressure gauge V.A.G 1318”, page 213](#).

If the set value is exceeded:

- Check the return line between the fuel filter and fuel pump for kinks and blockages.

If no fault is found:

- Replace fuel filter; the pressure limiting valve in the fuel filter is faulty
⇒ [“1.5 Summary of components - fuel filter, Octavia II, Yeti”, page 175](#).

If the set value is not reached:

- Check the fuel pressure before the fuel filter.

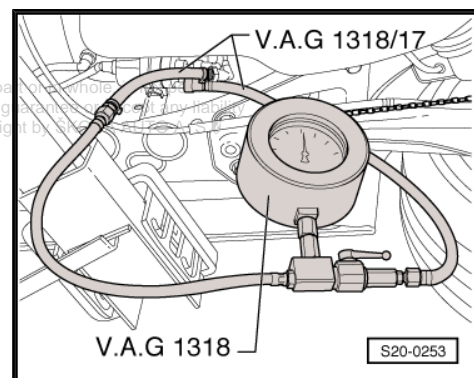
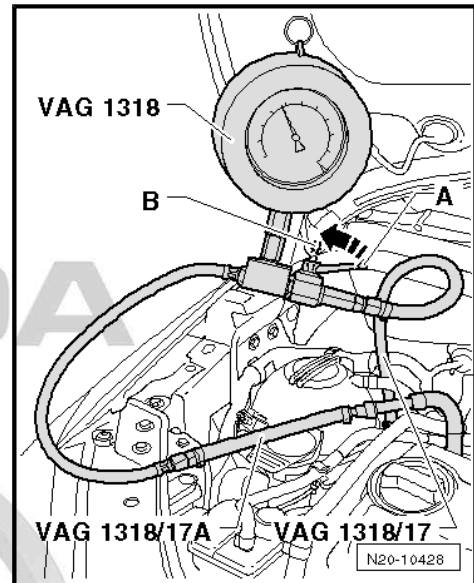
Check the pressure before the fuel filter

- Connect the pressure gauge - V.A.G 1318- with the adapter set - V.A.G 1318/17A- between the fuel filter and the fuel feed line.
- Open shut-off cock of the pressure gauge. Lever points in direction of flow.
- Start engine and run in idle.



Caution

Only shut off the shut-off cock slowly. At a fuel pressure of 0.8 MPa (8 bar), the shut-off cock must be immediately opened, in order to avoid a damage of the pressure gauge.



- Slowly close the shutoff cock of the pressure measuring device. The pressure must rise to at least 0,6 MPa (6,0 bar). If the 0.6 MPa (6.0 bar) is reached, immediately open the shut-off cock again!

If the specified value is reached:

- Fuel pump O.K., pressure limiting valve in the fuel filter defective, replace the fuel filter.

If the set value is not reached:

- Replace fuel delivery unit, it is faulty.

◆ Fabia II, Roomster, Rapid NH

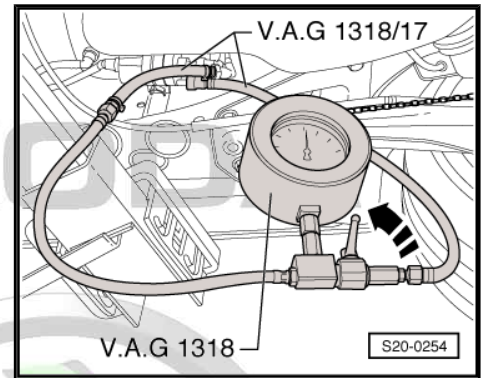
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#) .

◆ Octavia II, Yeti (version I.)

⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”, page 198](#) .

◆ Yeti (version II.)

⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”, page 200](#) .



2.8.2 Check fuel pressure with pressure gauge - VAS 6550-

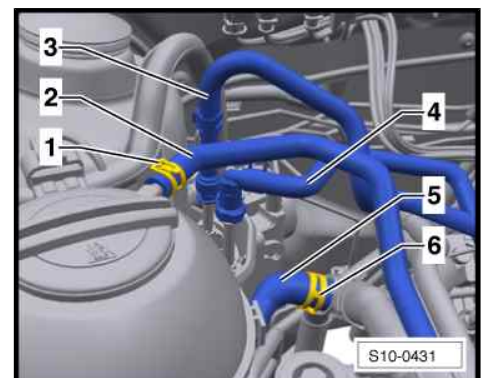
Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- The function of the fuel pump was checked ⇒ Vehicle diagnostic tester.

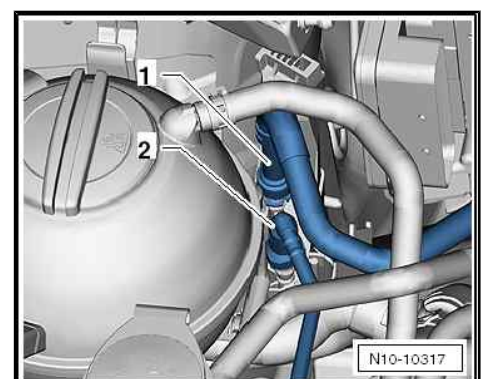
For vehicles Fabia II, Roomster, Rapid NH

- Pull out the fuel feed line -3- and catch the fuel which flows out with a cleaning cloth
⇒ [“3.1 Separating push-on couplings”, page 232](#) .



For the vehicles Octavia II, Yeti

- Remove the fuel feed line -1- (press in the securing ring to the top) and catch the fuel which flows out with a cleaning cloth.





Continued for all vehicles

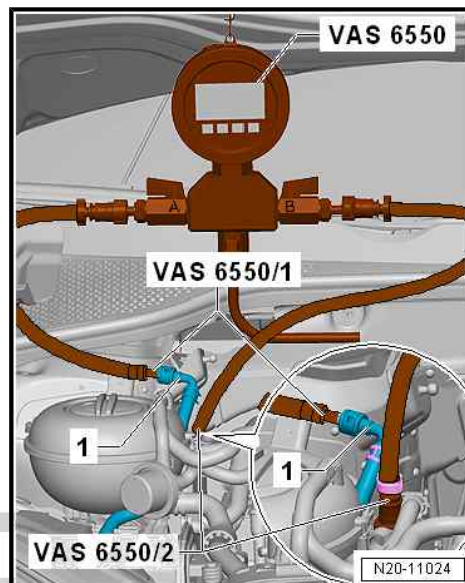
- Connect pressure gauge - VAS 6550- to fuel supply line with adapter - VAS 6550/1- and -VAS 6550/2- .
- ◆ VAS 6550/1 between fuel line leading to engine and shut-off tap -A-.
- ◆ VAS 6550/2 between fuel line leading to fuel tank and shut-off tap -B-.



WARNING

- ◆ *Risk of fuel dripping out.*

- Check the quick couplings for firm seating by pulling in the opposite direction.



Make sure that the shut-off tap -C- is closed at the pressure gauge - VAS 6550- -1-.

- Open shut-off taps -A- and -B- .
- Switch on ignition.
- Activate the fuel pump for fuel pressure generation ➔ Vehicle diagnostic tester.
- Read fuel pressure on pressure gauge - VAS 6550- .
- Set value: 0.4-0.7 MPa (4-7 bar).

If the specified value is reached:

- Test holding pressure
⇒ ["2.8.3 Check holding pressure with pressure gauge V.A.G 1318", page 213](#) .

If the set value is exceeded:

- Check the return line between the fuel filter and fuel pump for kinks and blockages.

If no fault is found:

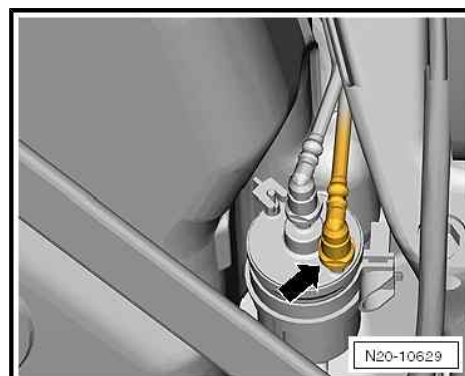
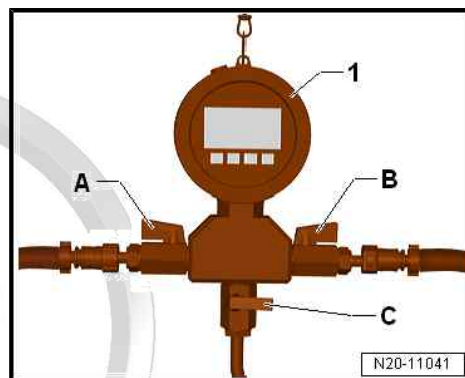
- Replace fuel filter; the pressure limiting valve in the fuel filter is faulty
⇒ ["1.5 Summary of components - fuel filter, Octavia II, Yeti", page 175](#) .

If the set value is not reached:

- Check the fuel pressure before the fuel filter.

Check the pressure before the fuel filter

- Disconnect fuel feed line -arrow- at fuel filter.



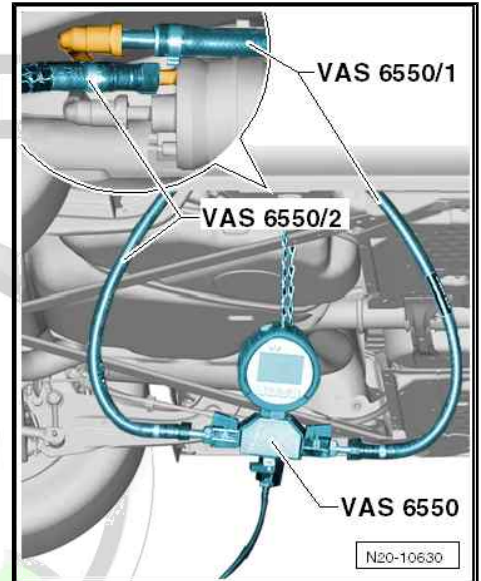
- Connect the pressure gauge - VAS 6550- with the adapter - VAS 6550/1- and -VAS 6550/2- between the fuel filter and the fuel feed line.
- ◆ Connect the adapter - VAS 6550/1- to connection -B-.
- ◆ Connect the adapter - VAS 6550/2- to connection -A-.



WARNING

- ◆ *Risk of fuel dripping out.*

- Check the quick coupling for firm seating by pulling in the opposite direction!



- Make sure that drain tap -C- is closed and cut-off taps -A- and -B- are open.
- Actuate fuel pump ⇒ [page 210](#) .
- Slowly close the shut-off tap -A-.
- The pressure must rise to at least 0,7 MPa (7,0 bar).
- Once 0.7 MPa (7.0 bar) is reached, immediately open the shut-off tap again.

If the specified value is reached:

- Check the fuel line between fuel filter and engine compartment for possible restrictions or blockages.

If no fault is found:

- Replace the fuel filter
⇒ ["1.5 Summary of components - fuel filter, Octavia II, Yeti", page 175](#) .

If the set value is not reached:

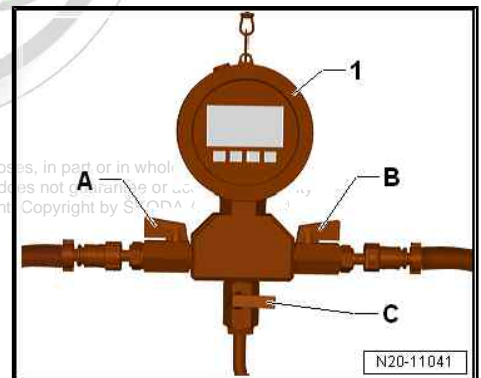
- Check the fuel pressure at the fuel delivery unit.

Check the fuel pressure at the fuel delivery unit

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.





Continued for all vehicles

- Unclip cover -4- with the fuel pump control unit - J538- -1-.



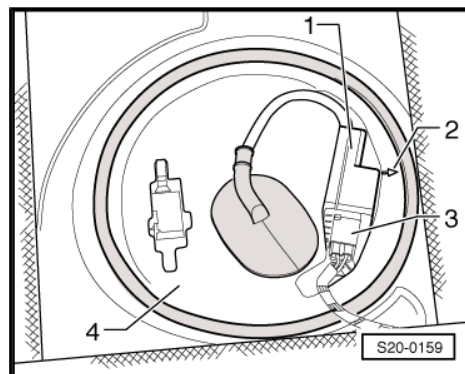
WARNING

- ◆ *Risk of injury caused by fuel which is under high pressure.*

- Wear protective gloves.
- Wear safety goggles.

Lay a clean cloth around the connection point and carefully slacken the connection point in order to relieve the pressure in the fuel system.

- Remove fuel return line -1- from closing flange
⇒ ["3.1 Separating push-on couplings", page 232](#) .



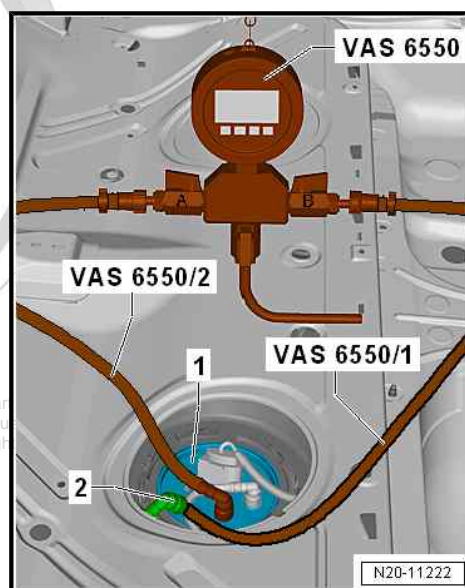
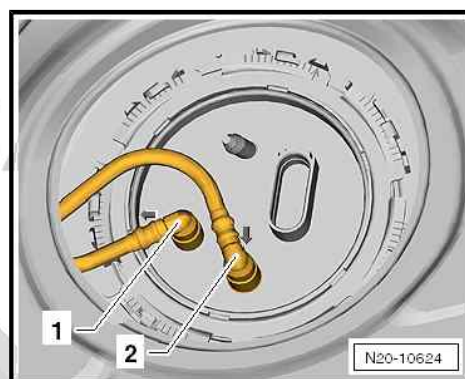
- Connect pressure gauge - VAS 6550- to fuel supply line with adapter - VAS 6550/1- and -VAS 6550/2- .
- ◆ VAS 6550/2 between fuel delivery unit and shut-off tap -A-.
- ◆ VAS 6550/1 between fuel line leading to engine and shut-off tap -B-.



WARNING

- ◆ *Risk of fuel dripping out.*

- Check the quick couplings for firm seating by pulling in the opposite direction.



- Open shut-off taps -A- and -B- .
- Shut-off tap -C- is closed.
- Lever points in the direction of flow.
- Actuate fuel pump ⇒ [page 210](#) .

If the specified value is reached:

- Check fuel line between fuel delivery unit and fuel filter for possible restrictions or blockages.

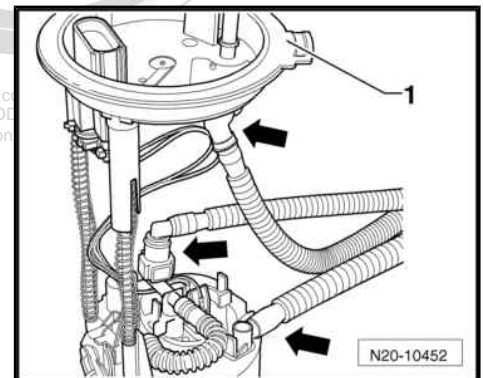
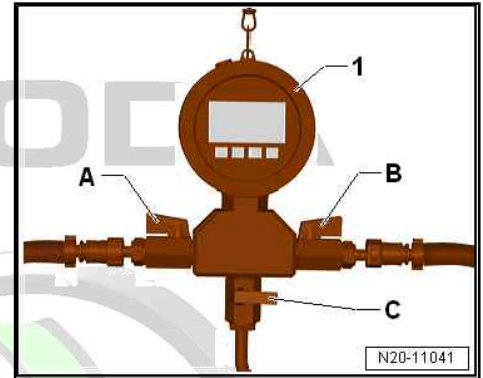
If the set value is not reached:

- Remove fuel delivery unit:
 - ◆ Fabia II, Roomster, Rapid NH
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”](#), [page 196](#) .
 - ◆ Octavia II, Yeti (version I.)
⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”](#), [page 198](#) .
 - ◆ Yeti (version II.)
⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”](#), [page 200](#) .

- Check that all hoses are connected -arrows-.
- Check fuel lines for leaks and damage.
- Check fuel lines for possible restrictions or blockages.

If no fault is found:

- Replace fuel delivery unit.



2.8.3 Check holding pressure with pressure gauge - V.A.G 1318-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”](#), [page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”](#), [page 7](#) .



- Fuel pressure O.K. and pressure gauge - V.A.G 1318- connected in the engine compartment
⇒ ["2.8.1 Check fuel pressure with pressure gauge V.A.G 1318", page 207](#) .
- Switch the ignition on and off so often until the fuel pressure on the pressure gauge does no longer rise.
- Read off fuel pressure on pressure gauge.
- Specified value: 0.4 ... 0.7 MPa (4 ... 7.0 bar)
- Observe pressure drop at pressure gauge.
- The pressure must not drop below 0.1 MPa (1.0 bar) after 10 minutes.

If pressure drops:

- Switch the ignition on and off so often until the fuel pressure on the pressure gauge does no longer rise.
- Immediately close the shutoff cock of the pressure measuring device. The lever then points in the position -B-.

If the pressure drops again:

- Check the low pressure pipe to the high pressure pump for tightness.

If no fault is found:

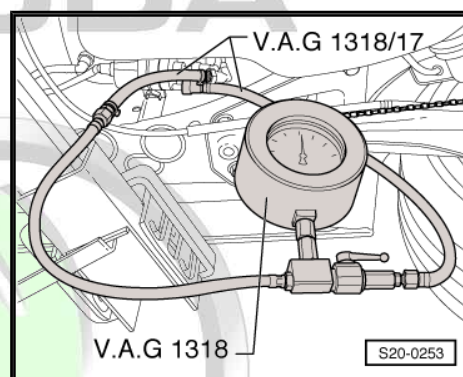
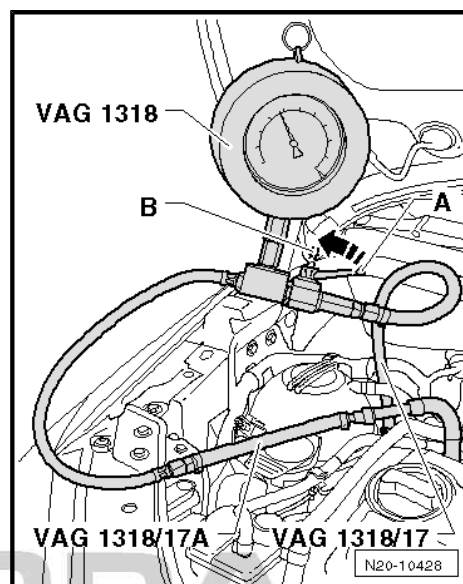
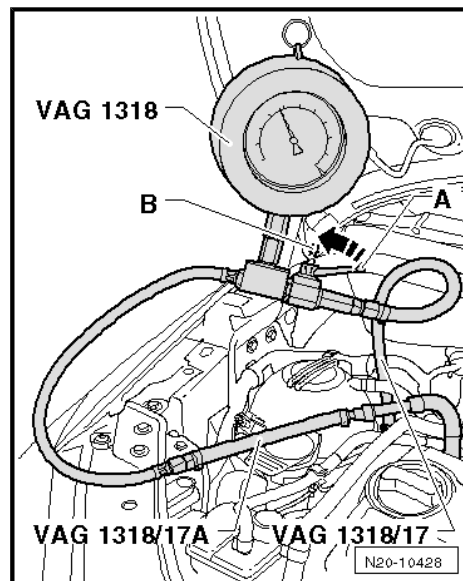
- Replace high pressure pump
⇒ ["4.2 Removing and installing the high pressure pump", page 277](#) .

If the pressure does not drop now:

- Check the fuel line to the fuel filter for tightness.

If the fuel line is not found to be faulty:

- Check the check valve in the fuel delivery unit. To do so, connect the pressure gauge - V.A.G 1318- with the adapter - V.A.G 1318/17A- between the fuel filter and fuel feed line.
- Open shut-off cock of the pressure gauge. Lever points in direction of flow.
- Switch the ignition on and off so often until the fuel pressure on the pressure gauge does no longer rise.
- Read off fuel pressure on pressure gauge.
- Specified value: 0.4 ... 0.7 MPa (4 ... 7.0 bar)



- Immediately close the shut-off cock of the pressure measuring device after the pressure has built up.
- Observe pressure drop at pressure gauge.
- The pressure must not drop below 0.1 MPa (1.0 bar) after 10 minutes.

If pressure drops:

- Replace fuel delivery unit, the non-return valve in the fuel pump is faulty.
- ♦ Fabia II, Roomster, Rapid NH
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#) .
- ♦ Octavia II, Yeti (version I.)
⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”, page 198](#) .
- ♦ Yeti (version II.)
⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”, page 200](#) .

If the pressure does not drop:

- Replace fuel filter; the pressure limiting valve in the fuel filter is faulty
⇒ [“1.5 Summary of components - fuel filter, Octavia II, Yeti”, page 175](#) .

2.8.4 Check holding pressure with pressure gauge - VAS 6550-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system ⇒ [“3.1 Rules of cleanliness”, page 7](#) .

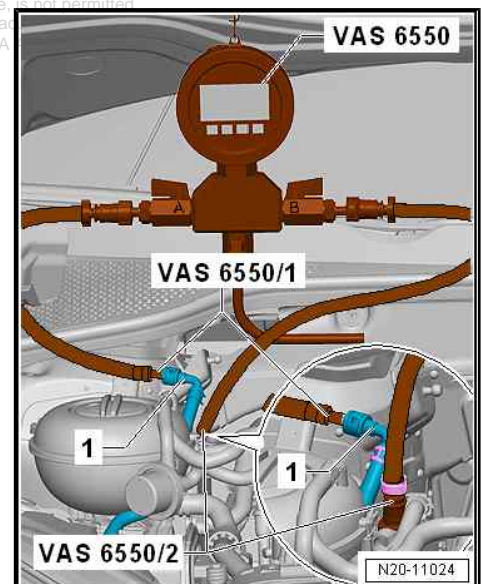
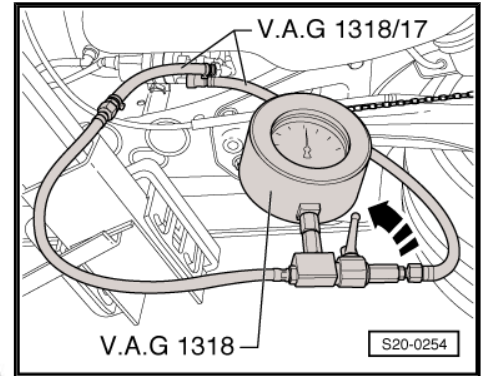
- Fuel pressure O.K. and pressure gauge - VAS 6550- connected in the engine compartment
⇒ [“2.8.2 Check fuel pressure with pressure gauge VAS 6550”, page 209](#) .
- ♦ VAS 6550/1 connected between fuel line leading to engine and shut-off tap -A-.
- ♦ VAS 6550/2 connected between fuel line leading to fuel tank and shut-off tap -B-.



WARNING

- ♦ *Risk of fuel dripping out.*

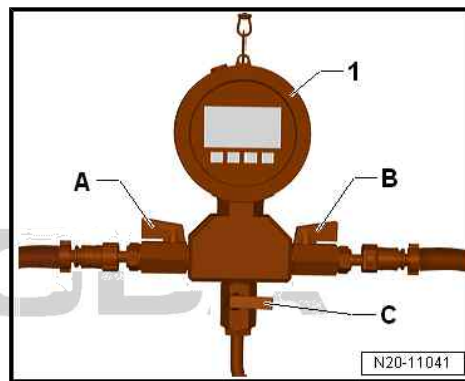
- Check the quick couplings for firm seating by pulling in the opposite direction.





Make sure that the shut-off tap -C- is closed at the pressure gauge -VAS 6550- -1-.

- Open shut-off taps -A- and -B- .
- Switch on ignition.
- Activate the fuel pump for fuel pressure generation ⇒ Vehicle diagnostic tester.
- Specified value: 0.4 ... 0.7 MPa (4 ... 7.0 bar).
- Check leaktightness and while doing so observe pressure drop at pressure gauge - VAS 6550- .
- The pressure must not drop below 0.1 MPa (1.0 bar) after 10 minutes.



If pressure drops:

- Actuate fuel pump ⇒ [page 216](#) .
- After pressure has built up, close cut-off tap -A- of pressure gauge -VAS 6550- immediately. The lever is then at right angle to direction of flow.
- Repeat holding pressure check.

If the pressure does not drop:

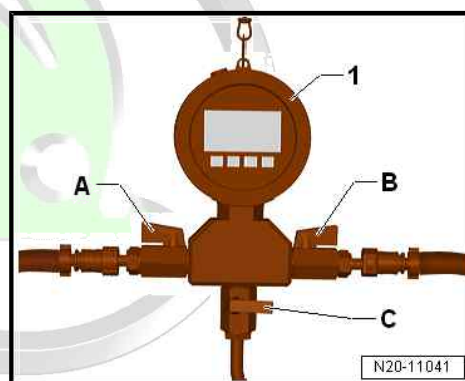
The leakage is on the engine side.

If pressure drops:

The leakage on the fuel tank side ⇒ [page 216](#) .

Testing holding pressure on engine side

- Repeat holding pressure check. This time, close shut-off tap -B- to check whether the leak actually is on the engine side.



If the pressure drops again:

The leakage is actually on the engine side.

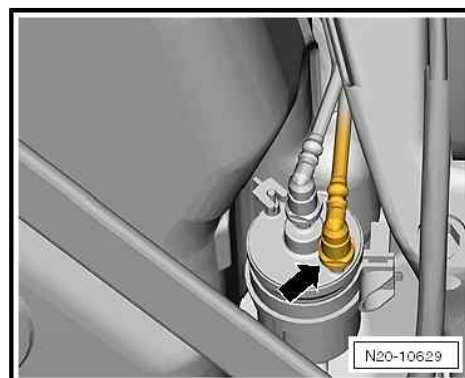
- Check fuel line and fuel distributor with injectors for leaks.

If no fault is found:

- Check the injection valves for leaks.
- Remove spark plugs.
- Open shut-off taps -A- and -B- .
- Control fuel delivery unit.
- Look through the hole for spark plugs to check whether the injection valve that is not leak-tight is causing fuel to collect on the piston crown.

Check the holding pressure before the fuel filter

- Disconnect fuel feed line -arrow- at fuel filter.



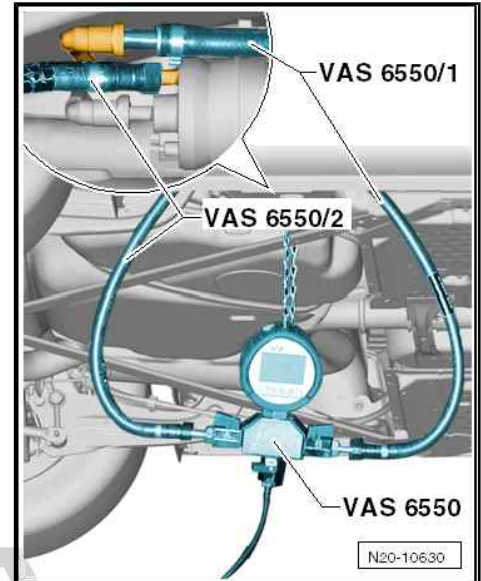
- Connect the pressure gauge - VAS 6550- with the adapter - VAS 6550/1- and -VAS 6550/2- between the fuel filter and the fuel feed line.
- ◆ Connect the adapter - VAS 6550/1- to connection -B-.
- ◆ Connect the adapter - VAS 6550/2- to connection -A-.



WARNING

- ◆ *Risk of fuel dripping out.*

- Check the quick coupling for firm seating by pulling in the opposite direction!



- Make sure that drain tap -C- is closed and cut-off taps -A- and -B- are open.
- Actuate fuel pump ➔ [page 216](#) .
- After pressure has built up, close cut-off tap -A- of pressure gauge -VAS 6550- immediately. The lever is then at right angle to direction of flow.
- Observe pressure drop at pressure gauge.
- The pressure must not drop below 0.1 MPa (1.0 bar) after 10 minutes.

If the pressure does not drop:

- Check the fuel line to the engine for tightness.

If pressure drops:

- Check holding pressure at the fuel delivery unit.

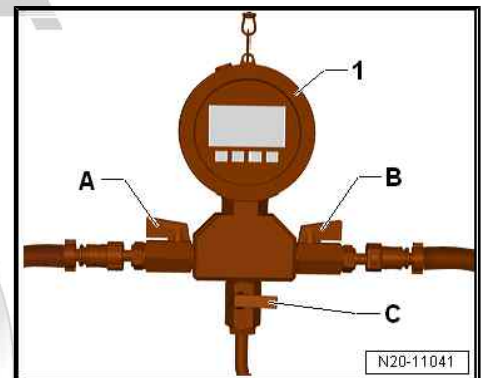
Check holding pressure at the fuel delivery unit

For vehicles Rapid NH

- Removing rear seat bench ➔ Body Work; Rep. gr. 72 .

For the vehicles Yeti

- Remove rear seat bench with brackets ➔ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.





Continued for all vehicles

- Unclip cover -4- with the fuel pump control unit - J538- -1-.



WARNING

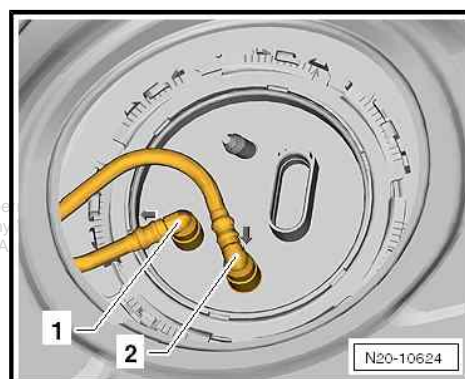
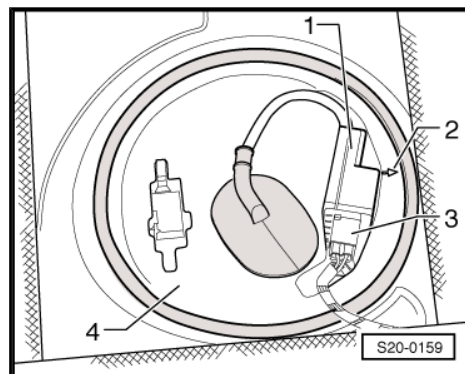
- ◆ *Risk of injury caused by fuel which is under high pressure.*

- Wear protective gloves.
- Wear safety goggles.

Lay a clean cloth around the connection point and carefully slacken the connection point in order to relieve the pressure in the fuel system.

- Remove fuel return line -1- from closing flange
⇒ ["3.1 Separating push-on couplings", page 232](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any responsibility with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



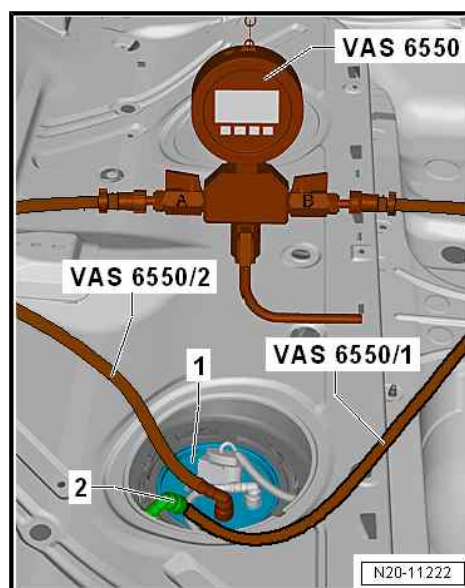
- Connect pressure gauge - VAS 6550- to fuel supply line with adapter - VAS 6550/1- and -VAS 6550/2- .
- ◆ VAS 6550/2 between fuel delivery unit and shut-off tap -A-.
- ◆ VAS 6550/1 between fuel line leading to engine and shut-off tap -B-.



WARNING

- ◆ *Risk of fuel dripping out.*

- Check the quick couplings for firm seating by pulling in the opposite direction.



- Open shut-off taps -A- and -B- .
- Shut-off tap -C- is closed.
- Lever points in the direction of flow.
- Actuate fuel pump ⇒ [page 216](#) .
- Close shut-off tap -B-.
- Observe pressure drop at pressure gauge.
- The pressure must not drop below 0.1 MPa (1.0 bar) after 10 minutes.

If the pressure does not drop:

- Check the fuel line to the fuel filter for tightness.
- Check fuel filter for tightness.

If no fault is found:

- Replace fuel filter; the pressure limiting valve in the fuel filter is faulty
⇒ [“1.5 Summary of components - fuel filter, Octavia II, Yeti”, page 175](#) .

If pressure drops:

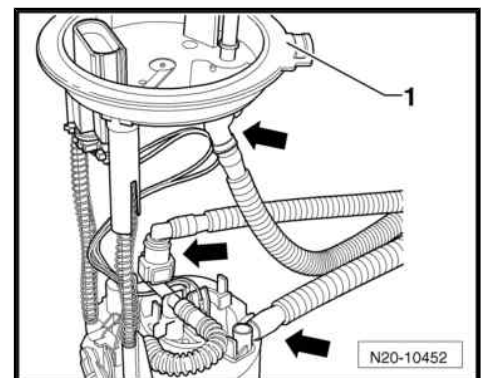
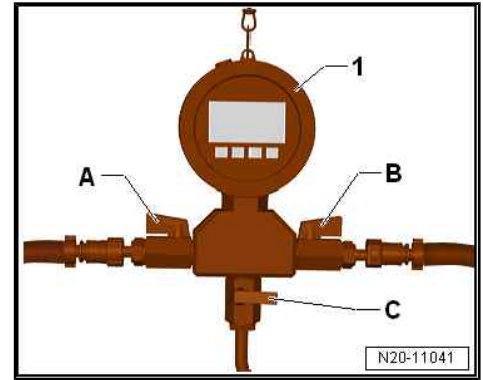
– Remove fuel delivery unit:
Protection of intellectual property: This document, in whole or in part, for commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the content of this document. Copyright by ŠKODA AUTO A. S. ®

- ◆ Fabia II, Roomster, Rapid NH
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”, page 196](#) .
- ◆ Octavia II, Yeti (version I.)
⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”, page 198](#) .
- ◆ Yeti (version II.)
⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”, page 200](#) .

- Check that all hoses are connected -arrows-.
- Check fuel lines for leaks and damage.

If no fault is found:

- Replace fuel delivery unit, non-return valve faulty.



2.8.5 Check fuel flow rate with pressure gauge - V.A.G 1318-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.



For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Roomster

- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Octavia II, Rapid NH

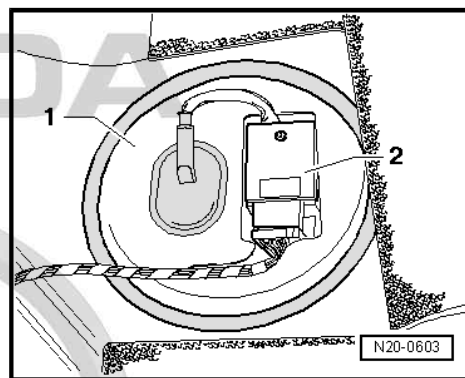
- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.

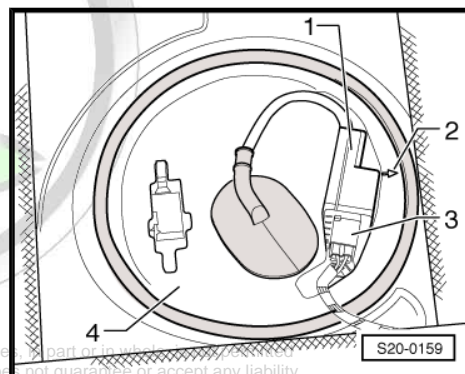
For vehicles Fabia II, Roomster, Rapid NH

- Unclip cover -1- with the fuel pump control unit - J538- -2-.



For the vehicles Octavia II, Yeti

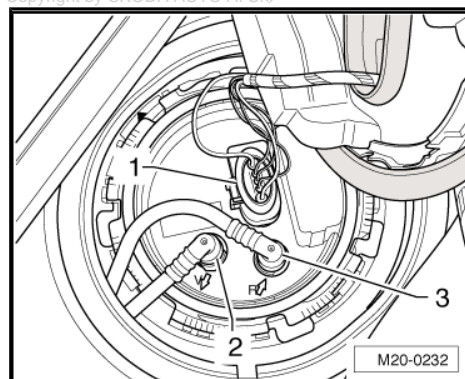
- Unclip cover -4- with the fuel pump control unit - J538- -1-.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, without the written permission of ŠKODA AUTO A. S. is prohibited. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ®

Continued for all vehicles

- First of all check the plug -1- for correct fit. To do so, pull on the plug without pressing the catch. If the plug was not correctly plugged in, it may have caused a fault.
- Now unplug the plug -1-.
- Check contacts on plug and on fuel pump for damage.



- Connect the test instrument adapter/DSO (5-pin) - VAS 5565- to the plug and to the fuel delivery unit.
- Connect the remote control - V.A.G 1348/3A- to the adapter - VAS 5565- and to battery positive (+).

i Note

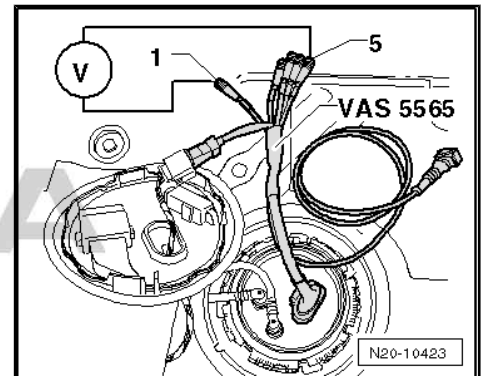
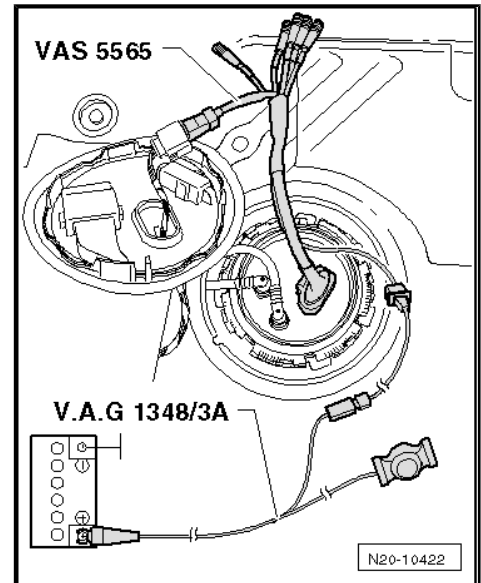
This step is only intended to ensure that the fuel pump runs when the engine is switched off.

i Note

- ◆ *This step is only intended to ensure that the fuel pump runs when the engine is switched off.*
- ◆ *The fuel delivery is measured at 0.4 MPa (4 bar) - this is why first of all you need to check that the value is correct*
⇒ *"2.8.1 Check fuel pressure with pressure gauge V.A.G 1318" - page 207*.

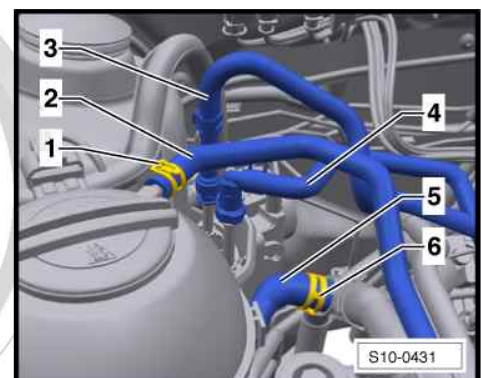
The fuel delivery of the fuel pump is dependent on the battery voltage. The multimeter - V.A.G 1715- must therefore also be connected.

- Attach the -1- and -5- Multimeter to terminals -VAS 5565- of the test instrument adapter -V.A.G 1715- .



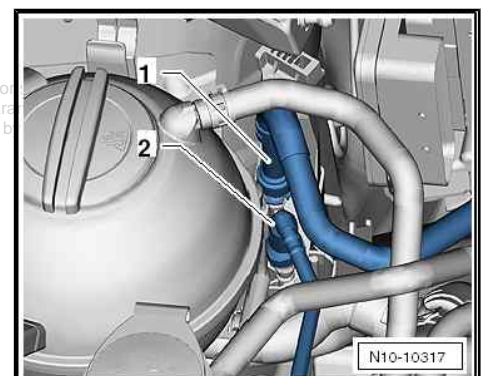
For vehicles Fabia II, Roomster, Rapid NH

- Pull out the fuel feed line -3- and catch the fuel which flows out with a cleaning cloth
⇒ *"3.1 Separating push-on couplings" - page 232*.



For the vehicles Octavia II, Yeti

- Remove the fuel feed line -1- (press in the securing ring to the top) and catch the fuel which flows out with a cleaning cloth.





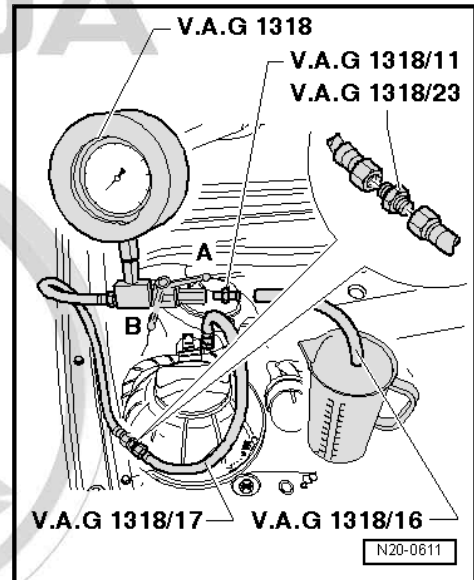
Continued for all vehicles

- Connect the pressure gauge - V.A.G 1318- with the double connection piece - V.A.G 1318/23- and the adapter set - V.A.G 1318/17A- to the fuel feed line.
- Fit the hose adapter - V.A.G 1318/16- onto the adapter - V.A.G 1318/11- of the pressure measuring device and hold it in a measuring vessel.
- Close the shut-off cock of the pressure measuring device. The lever then points in the position -B-.



WARNING

Danger of liquid spraying out when opening the shut-off valve. Wear safety goggles and safety clothing, in order to avoid injuries and skin contact with fuel. Hold the container in front of the free connection to the pressure gauge.



- Open shut-off cock of the pressure gauge. The lever then points in the direction of flow -A-.
- Operate remote control - V.A.G 1348/3A- . While doing so, slowly close the shut-off cock until the pressure gauge displays 0.4 MPa (4 bar) overpressure. From this point on do not move position of shut-off tap.
- Empty measuring glass.
- Activate remote control for 30 seconds while measuring the battery voltage.

- Compare the delivered fuel rate with the specified value:

*) Minimum fuel flow rate in $\text{cm}^3/30 \text{ s}$



Note

Voltage at the fuel pump when engine is not running and pump is approximately 2 volts less than battery voltage.

Read out examples:

During the test a voltage of 10.5 V was measured. Thus a minimum fuel flow rate of $580 \text{ cm}^3/30 \text{ s}$ is obtained.

If the set value is not reached:

- Check fuel lines for possible restrictions (kinks) or blockages.

If no fault is found:

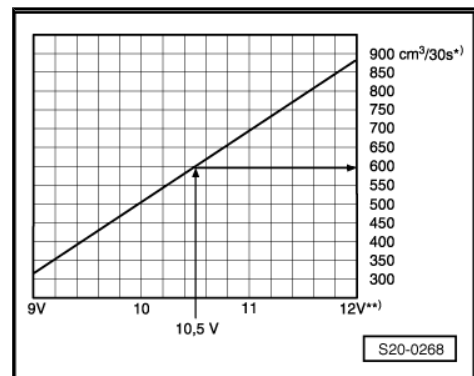
- Take cap off fuel filler neck and repeat the test.

If the specified value is reached:

- Check the ventilation of the fuel tank.

If the set value is not reached:

- Check the fuel flow rate at the fuel filter inlet.



Checking the fuel flow rate at the fuel filter inlet

- Disconnect fuel feed line -1- from the fuel filter input.
- Connect the pressure gauge - V.A.G 1318- with the adapter set - V.A.G 1318/17A- to the fuel feed line.
- Repeat delivery rate check.

If the specified value is reached:

- Check fuel line to engine for possible restrictions or blockages.
- Check fuel line to engine for tightness and damage.

If no fault is found:

- Replace the fuel filter
⇒ ["1.5 Summary of components - fuel filter, Octavia II, Yeti", page 175](#) .

If the set value is not reached:

- Check fuel line from the fuel delivery unit to the fuel filter for possible restrictions or blockages.
- Check fuel line to the fuel filter for leaks and damage.

If no fault is found:

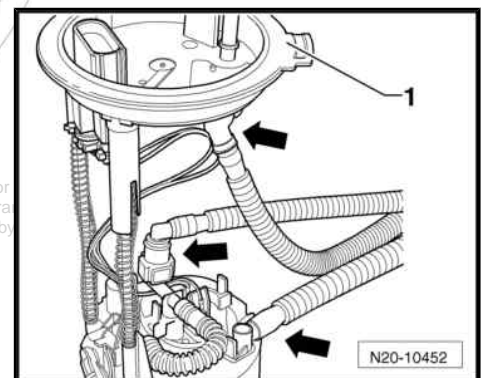
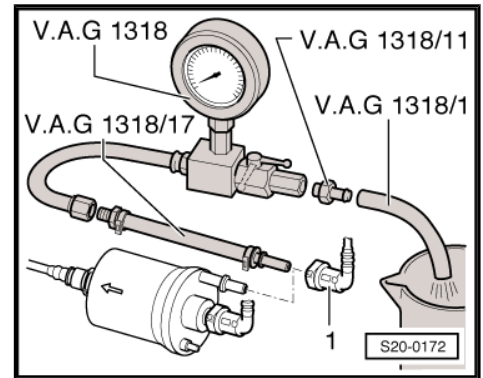
- Remove fuel pump and check it is clean.
- ◆ Fabia II, Roomster, Rapid NH
⇒ ["2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)", page 196](#) .
- ◆ Octavia II, Yeti (version I.)
⇒ ["2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)", page 198](#) .
- ◆ Yeti (version II.)
⇒ ["2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)", page 200](#) .
- Check that all hoses are connected -arrows-.
- Check fuel lines for possible restrictions or blockages.
- Check fuel lines for leaks and damage.

If no fault is found:

- Replace fuel delivery unit.

If the required fuel delivery volume has been achieved, but a fault is still suspected in the fuel supply system (e.g. intermittent breakdown of the fuel supply):

- Check current consumption of fuel delivery unit ⇒ Vehicle diagnostic tester.



2.8.6 Check fuel flow rate with pressure gauge - VAS 6550-

- Switch off ignition and all electrical loads, and pull out ignition key.

For vehicles Fabia II

- Position right rear seat vertically ⇒ Body Work; Rep. gr. 72 .

For vehicles Roomster

- Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72 .



For vehicles Octavia II, Rapid NH

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72 .

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72 .
- Remove floor covering under the rear seats.

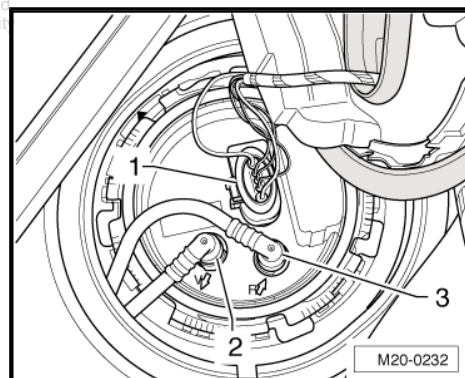
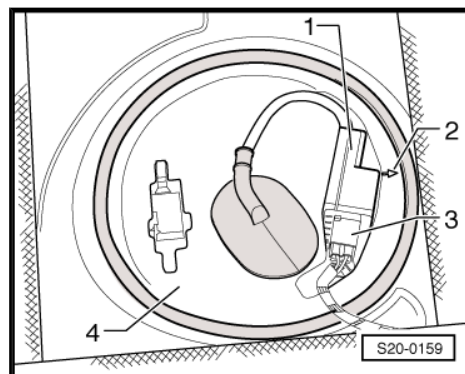
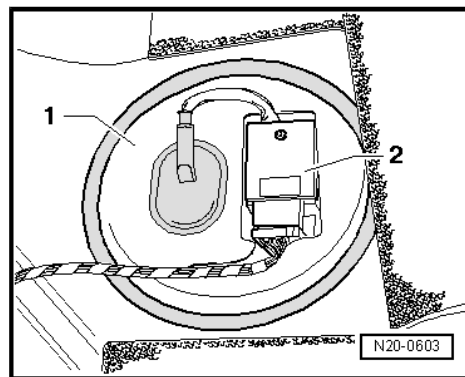
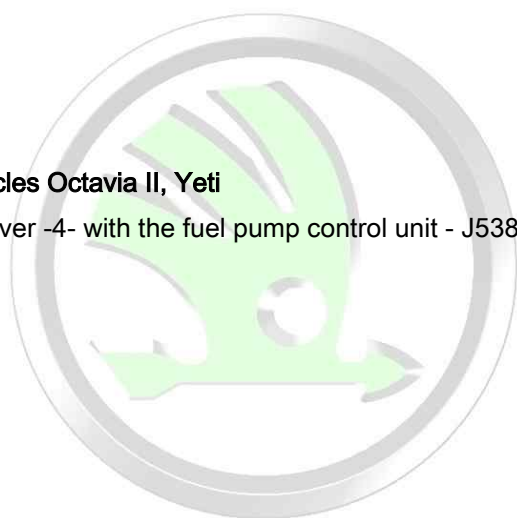
For vehicles Fabia II, Roomster, Rapid NH

- Unclip cover -1- with the fuel pump control unit - J538- -2-.

ŠKODA

For the vehicles Octavia II, Yeti

- Unclip cover -4- with the fuel pump control unit - J538- -1-.



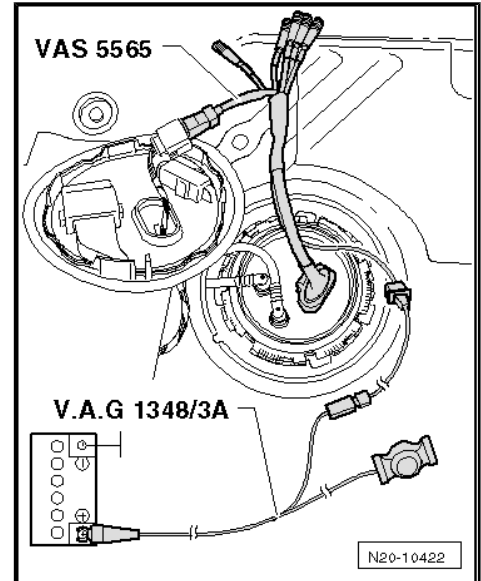
Continued for all vehicles

- First of all check the plug -1- for correct fit. To do so, pull on the plug without pressing the catch. If the plug was not correctly plugged in, it may have caused a fault.
- Now unplug the plug -1-.
- Check contacts on plug and on fuel pump for damage.

- Connect the test instrument adapter/DSO (5-pin) - VAS 5565- to the plug and to the fuel delivery unit.
- Connect the remote control - V.A.G 1348/3A- to the adapter - VAS 5565- and to battery positive (+).

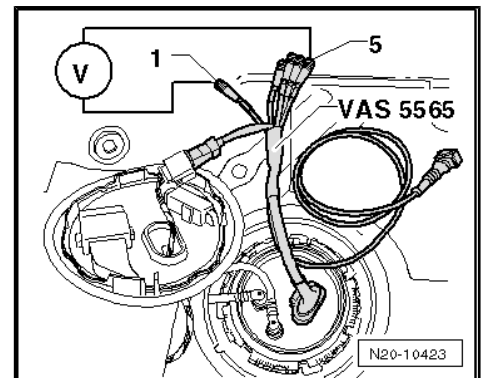
Note

- ◆ *This step is only intended to ensure that the fuel pump runs when the engine is switched off.*
- ◆ *The fuel delivery is measured at 0.4 MPa (4 bar) - this is why first of all you need to check that the value is correct
⇒ "2.8.2 Check fuel pressure with pressure gauge VAS 6550", page 209.*



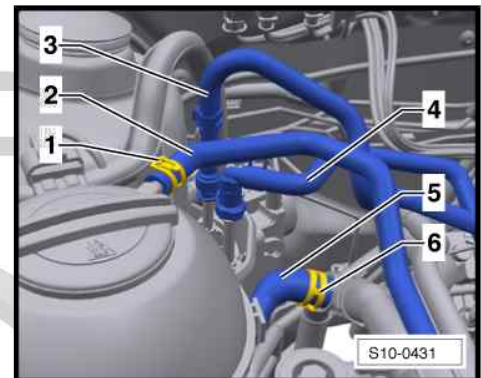
The fuel delivery of the fuel pump is dependent on the battery voltage. The multimeter - V.A.G 1715- must therefore also be connected.

- Attach the -1- and -5- Multimeter to terminals -VAS 5565- of the test instrument adapter -V.A.G 1715- .



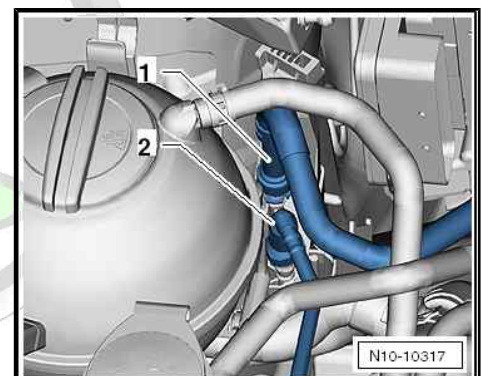
For vehicles Fabia II, Roomster, Rapid NH

- Pull out the fuel feed line -3- and catch the fuel which flows out with a cleaning cloth
⇒ "3.1 Separating push-on couplings", page 232 .



For the vehicles Octavia II, Yeti

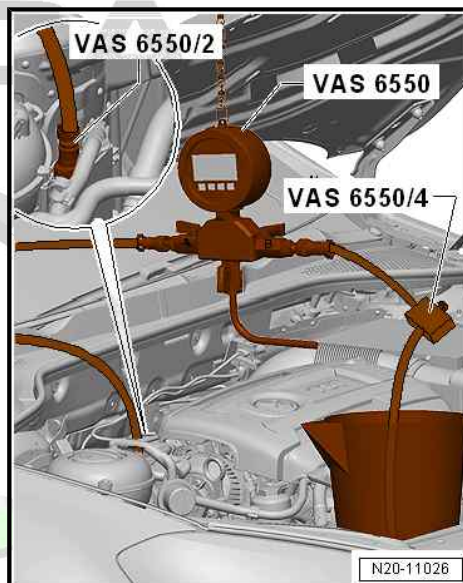
- Remove the fuel feed line -1- (press in the securing ring to the top) and catch the fuel which flows out with a cleaning cloth.





Continued for all vehicles

- Connect pressure gauge - VAS 6550- to fuel supply line with adapter - VAS 6550/2- .
- ◆ VAS 6550/2 connected between fuel line leading to fuel tank and shut-off tap -A-.
- Connect the pressure valve - VAS 6550/4- between the measuring vessel and the shut-off tap -B-.
- Hold hose on delivery valve - VAS 6550/4- in measuring vessel.

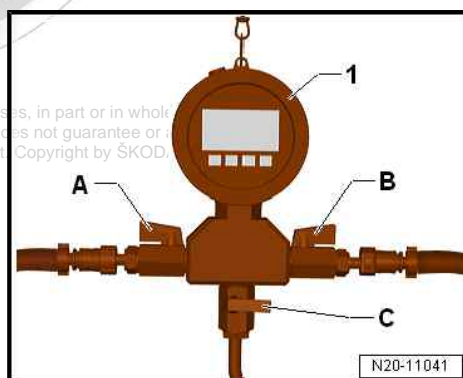


- Make sure that the shut-off tap -C- is closed at the pressure gauge - VAS 6550- -1-.
- Open shut-off taps -A- and -B-.

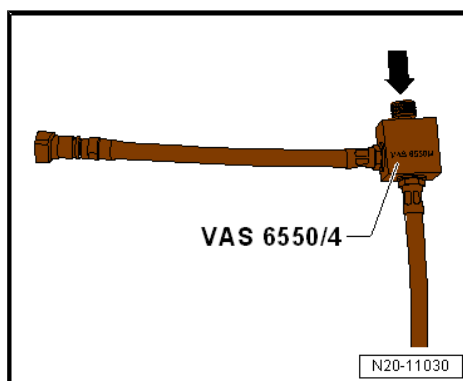


Note

Counterpressure must be built up against which the fuel pump must work when the fuel delivery flow in the fuel line is being measured.



- The counterpressure is set by turning the setting wheel -arrow- of the pressure valve - VAS 6550/4- .
- Operate remote control - V.A.G 1348/3A - . While doing this, slowly close the shut-off cock -arrow- until the pressure gauge displays 0,4 MPa (4 bar) overpressure. From this point on do not move position of shut-off tap.
- Empty measuring glass.
- Activate remote control -V.A.G 1348/3A- for 30 seconds while measuring the battery voltage.



- Compare fuel quantity delivered with minimum flow quantity on the diagram cm³/30s.

*) Minimum fuel flow rate in cm³/30 s



Note

Voltage at the fuel pump when engine is not running and pump is approximately 2 volts less than battery voltage.

Read out examples:

During the test a voltage of 10.5 V was measured. Thus a minimum fuel flow rate of 580 cm³/30 s is obtained.

If the set value is not reached:

- Check fuel lines for possible restrictions (kinks) or blockages.

If no fault is found:

- Take cap off fuel filler neck and repeat the test.

If the specified value is reached:

- Check the ventilation of the fuel tank.

If the set value is not reached:

- Check the fuel flow rate at the fuel filter inlet.

Checking the fuel flow rate at the fuel filter inlet

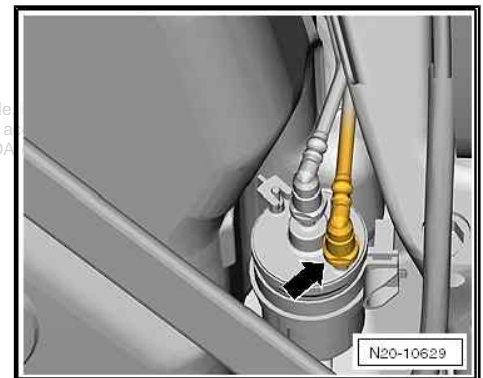
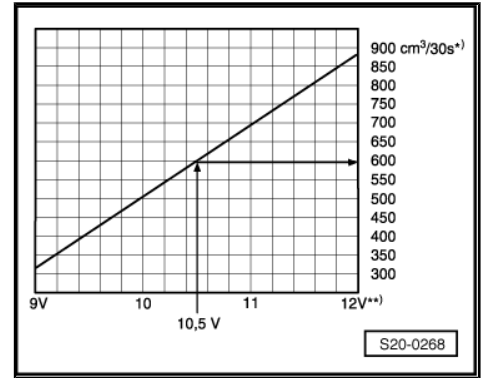


WARNING

♦ *Risk of injury caused by fuel which is under high pressure.*

Lay a clean cloth around the connection point and carefully slacken the connection point in order to relieve the pressure in the fuel system.

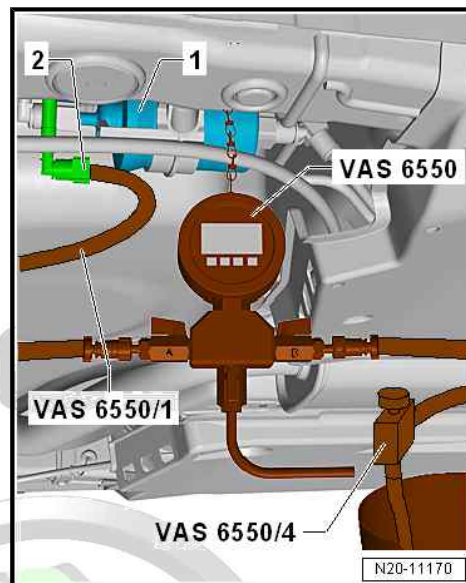
- Disconnect fuel feed line -arrow- at fuel filter.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA



- Connect the -2-pressure gauge with -VAS 6550- adapter to the fuel feed line to the fuel filter -VAS 6550/1- .
- ◆ VAS 6550/1 between fuel line from the fuel tank and the shut-off tap -A-.
- ◆ VAS 6550/4 between the measuring vessel and shut-off tap -B-.
- Hold hose on delivery valve - VAS 6550/4- in measuring vessel.

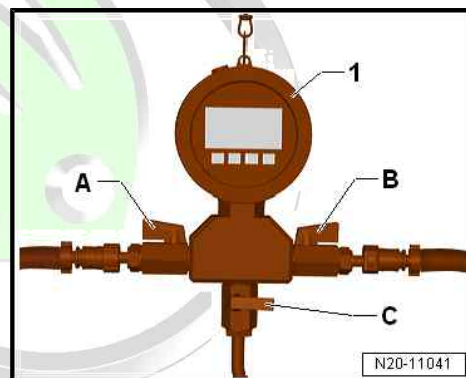


- Open shut-off taps -A- and -B- .
- Shut-off tap -C- is closed.
- Lever points in the direction of flow.



Note

Counterpressure must be built up against which the fuel pump must work when the fuel delivery flow in the fuel line is being measured.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

- The counterpressure is set by turning the setting wheel -arrow- of the pressure valve - VAS 6550/4- .
- Operate remote control - V.A.G 1348/3A - . While doing this, slowly close the shut-off cock -arrow- until the pressure gauge displays 0,4 MPa (4 bar) overpressure. From this point on do not move position of shut-off tap.
- Drain measuring vessel.
- Repeat delivery rate check.

If the specified value is reached:

- Check fuel line to engine for possible restrictions or blockages.
- Check fuel line to engine for tightness and damage.

If no fault is found:

- Replace the fuel filter
⇒ ["1.5 Summary of components - fuel filter, Octavia II, Yeti", page 175](#) .

If the set value is not reached:

- Check fuel delivery quantity at the fuel delivery unit

Checking fuel delivery rate at the fuel pump

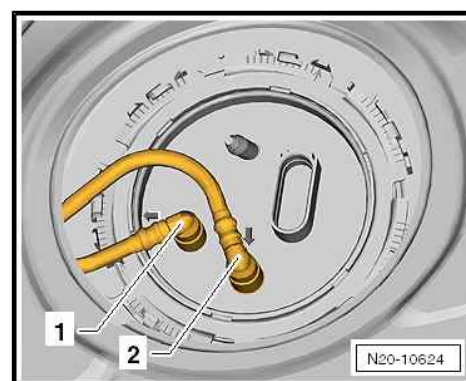
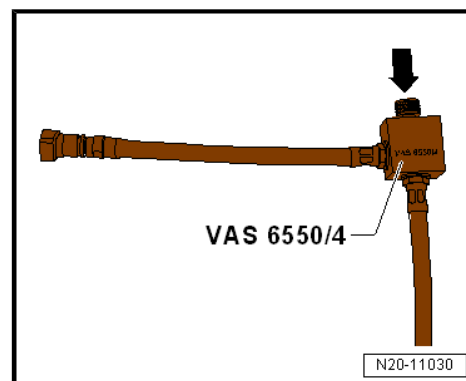


WARNING

◆ *Risk of injury caused by fuel which is under high pressure.*

Lay a clean cloth around the connection point and carefully slacken the connection point in order to relieve the pressure in the fuel system.

- Remove fuel return line -1- from closing flange
⇒ ["3.1 Separating push-on couplings", page 232](#) .





- Connect pressure gauge - VAS 6550- to fuel supply line -VAS 6550/2- .
- ◆ VAS 6550/2 between fuel delivery unit and shut-off tap -A-.
- ◆ VAS 6550/4 between the measuring vessel and shut-off tap -B-.
- Check the quick couplings for firm seating by pulling in the opposite direction.



WARNING

- ◆ **Risk of fuel dripping out.**

- Check the quick couplings for firm seating by pulling in the opposite direction.
- Hold hose on delivery valve - VAS 6550/4- in measuring vessel.
- Open shut-off taps -A- and -B- .
- Shut-off tap -C- is closed.
- Lever points in the direction of flow.



Note

Counterpressure must be built up against which the fuel pump must work when the fuel delivery flow in the fuel line is being measured.

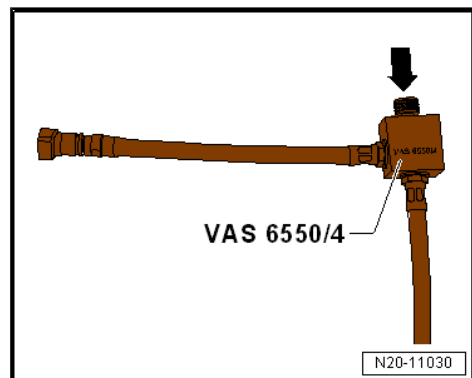
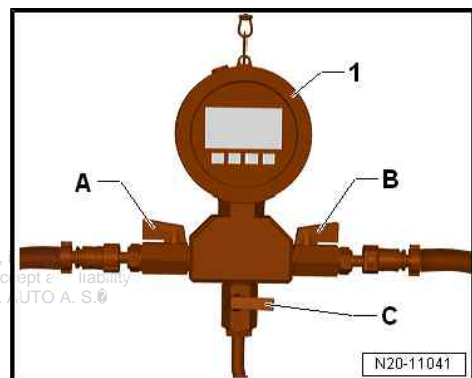
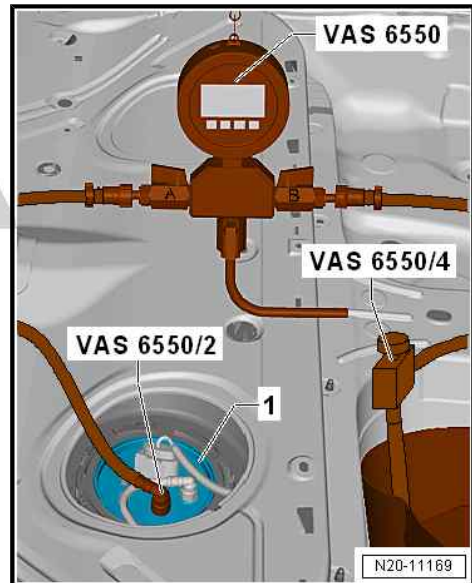
- The counterpressure is set by turning the setting wheel -arrow- of the pressure valve - VAS 6550/4- .
- Operate remote control - V.A.G 1348/3A - . While doing this, slowly close the shut-off cock -arrow- until the pressure gauge displays 0,4 MPa (4 bar) overpressure. From this point on do not move position of shut-off tap.
- Drain measuring vessel.
- Repeat delivery rate check.

If the specified value is reached:

- Check fuel line from the fuel delivery unit to the fuel filter for possible restrictions or blockages.
- Check fuel line to the fuel filter for leaks and damage.

If the set value is not reached:

- Remove fuel pump and check it is clean.
- ◆ Fabia II, Roomster, Rapid NH
⇒ [“2.2 Removing and installing the fuel delivery unit \(Fabia II, Roomster, Rapid NH\)”](#), page 196 .
- ◆ Octavia II, Yeti (version I.)
⇒ [“2.3 Removing and installing the fuel delivery unit \(Octavia II, Yeti - fuel tank version I\)”](#), page 198 .
- ◆ Yeti (version II.)
⇒ [“2.4 Removing and installing the fuel delivery unit \(Yeti - fuel delivery unit version II\)”](#), page 200 .



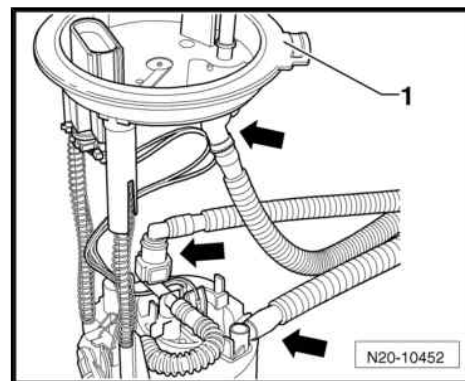
- Check that all hoses are connected -arrows-.
- Check fuel lines for possible restrictions or blockages.
- Check fuel lines for leaks and damage.

If no fault is found:

- Replace fuel delivery unit.

If the required fuel delivery volume has been achieved, but a fault is still suspected in the fuel supply system (e.g. intermittent breakdown of the fuel supply):

- Check current consumption of fuel delivery unit ⇒ Vehicle diagnostic tester.



ŠKODA



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



3 Quick couplings

⇒ **"3.1 Separating push-on couplings", page 232**

3.1 Separating push-on couplings

Special tools and workshop equipment required

- ◆ Lever - T10468-



Note

- ◆ *The quick couplings of fuel, vacuum and ventilation lines are colour marked. Either the colour point at the quick coupling or the release button has the corresponding colour.*
- ◆ *Observe safety measures*
⇒ **"2.2 Safety precautions when working on fuel supply system", page 3**.
- ◆ *Observe rules for cleanliness*
⇒ **"3.1 Rules of cleanliness", page 7**.

Push-on coupling	Colour coding on the quick coupling
Fuel feed line	black
Fuel return-flow line	blue
Vent line	white
Vacuum line	green



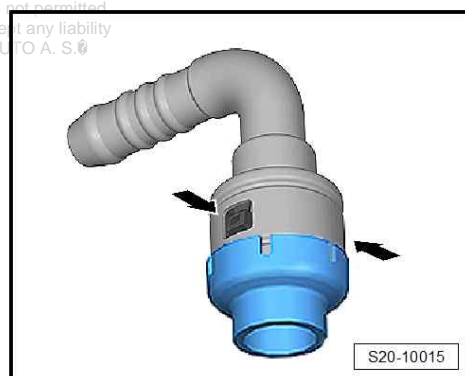
WARNING

Fuel feed line is pressurised. Wear safety goggles and safety clothing, in order to avoid injuries and skin contact with fuel. Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

Version 1

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

Quick coupling with release buttons -arrows- on right and left.



Separation point -1- in the engine compartment must be supported.

- Insert the lever - T10468- between the heat shield and the stop -arrow- of the fuel line -2- and hold.

Continued for all separation points.



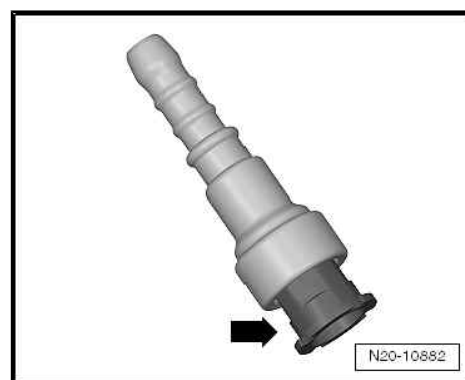
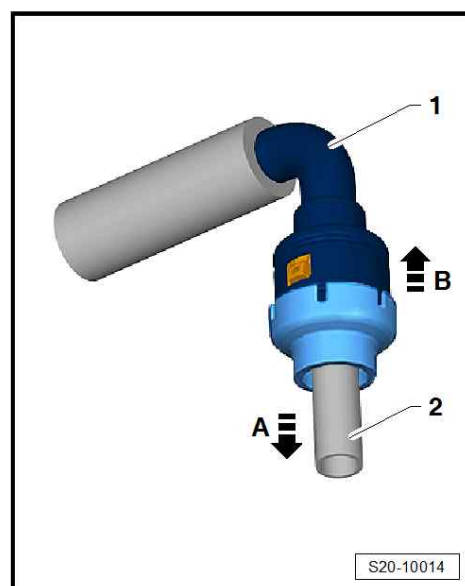
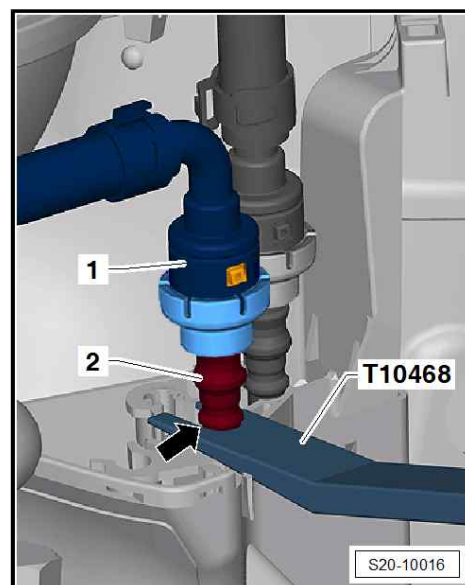
Note

When the push-fit coupling is fitted with a plastic circlip, leave it inserted when removing and installing the quick release.

- Press the quick coupling -1- in direction of arrow -A-.
- Press the release buttons and remove the quick coupling -1- from the fuel line -2- in direction of the arrow -B-.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick coupling for firm seating by pulling in the opposite direction!



ŠKODA

Version 2

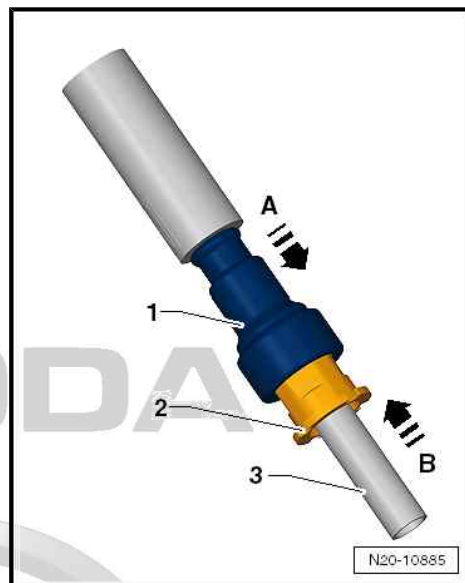
Push-on coupling with pull-release mechanism -arrow-



- Press the quick coupling -1- in direction of arrow -A-.
- Pull pull-release mechanism -2- in direction of arrow -B-.
- Remove the quick coupling -1- from the fuel line -3- in direction of the arrow -B-.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick coupling for firm seating by pulling in the opposite direction!



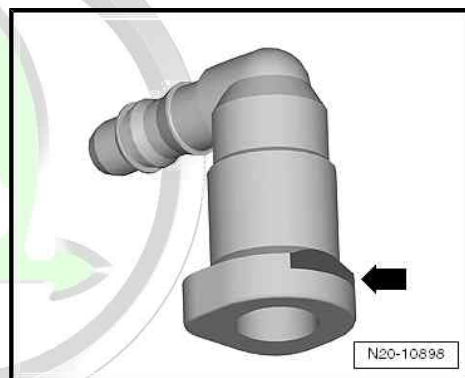
Version 3

Quick coupling with front button -arrow-.

- Press the release button -arrow- and detach the quick coupling.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick coupling for firm seating by pulling in the opposite direction!



Version 4

Quick coupling with release buttons -arrows- on right and left.

- Press the quick coupling in direction of arrow -A-.
- Press release buttons -arrow- and detach quick coupling.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick coupling for firm seating by pulling in the opposite direction!



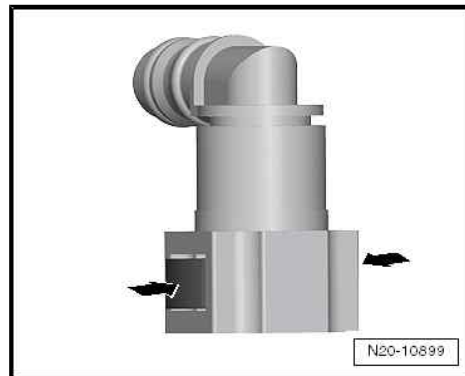
Version 5

Quick coupling with release buttons -arrows- on right and left.

- Press release buttons -arrow- and detach quick coupling.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick coupling for firm seating by pulling in the opposite direction!



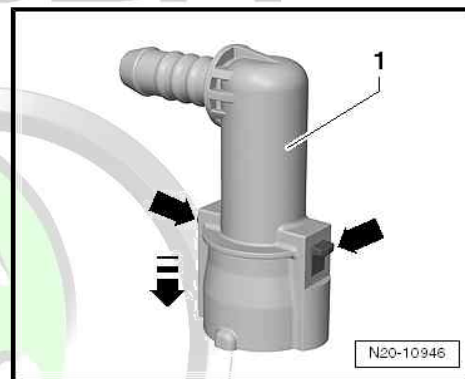
Version 6

Quick coupling with release buttons -arrows- on right and left.

- Press push-on coupling -1- in -direction of arrow- and hold pressed.
- Press release buttons -arrow- and detach quick coupling.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

- Check the quick couplings for firm seating by pulling in the opposite direction!



Version 7

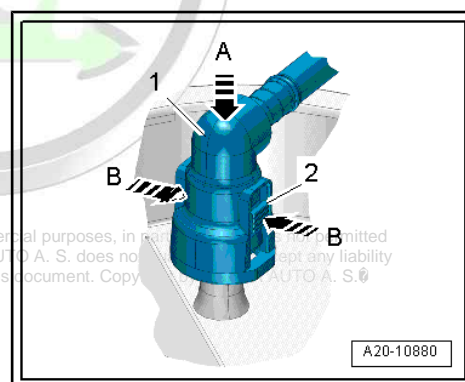
Quick coupling -1- with release buttons -2- right and left.

- Press quick coupling -1- in direction of arrow -A- and hold pressed.
- Press the release buttons -2- in direction of arrow -B- and remove the quick coupling -1-.

Pay attention to the assignment of the colours when installing
⇒ [page 232](#) .

The quick coupling must be heard to click into place.

- Check the quick couplings for firm seating by pulling in the opposite direction!



4 Accelerator control

⇒ "4.1 Summary of components - accelerator pedal module, Fabia II, Roomster, Rapid NH", page 236

⇒ "4.2 Summary of components - accelerator pedal module, Octavia II, Yeti", page 237

⇒ "4.3 Removing and installing the accelerator pedal module (Octavia II, Yeti)", page 237

4.1 Summary of components - accelerator pedal module, Fabia II, Roomster, Rapid NH

1 - Bearing bracket

- ❑ removing and installing
⇒ Chassis; Rep. gr. 46

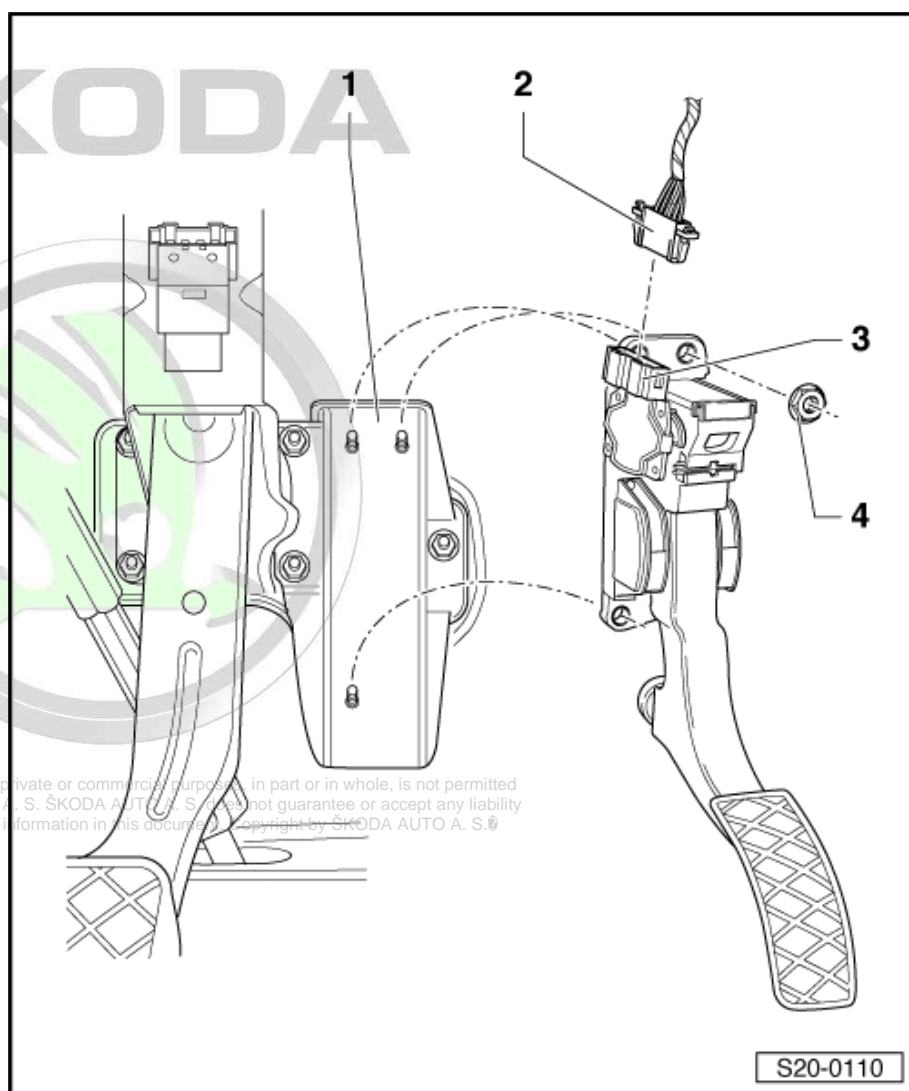
2 - Connector

3 - Accelerator pedal module

- ❑ with accelerator pedal position sender -G79- and accelerator pedal position sender 2 -G185-
- ❑ to remove the sender remove the bottom part of the dash panel on the driver's side
- ❑ if the accelerator pedal module is replaced, an adaptation of the engine control unit has to be performed on vehicles with automatic gearbox
⇒ Vehicle diagnostic tester

4 - Nut

- ❑ 10 Nm



4.2 Summary of components - accelerator pedal module, Octavia II, Yeti

1 - Connector

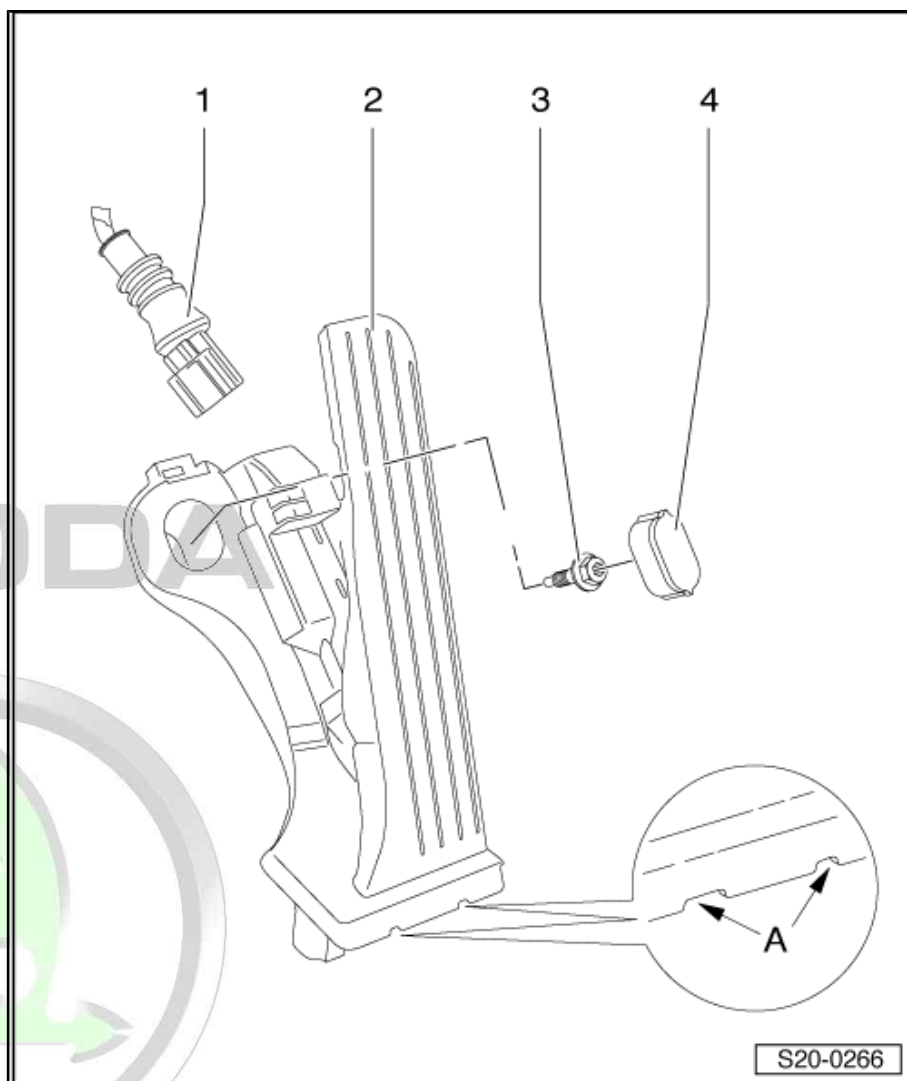
2 - Accelerator pedal position sender - G79- with accelerator pedal position sender 2 - G185-

- ☐ not adjustable
- ☐ the sender transmits the driver's instructions to the engine control unit
- ☐ -A- openings for the release tool
- ☐ Removing and installing
⇒ ["4.3 Removing and installing the accelerator pedal module \(Octavia II, Yeti\)", page 237](#)
- ☐ when replacing, the engine control unit must be adapted ⇒ Vehicle diagnostic tester on vehicles with automatic gearbox

3 - Screw

- ☐ 10 Nm

4 - Cap



4.3 Removing and installing the accelerator pedal module (Octavia II, Yeti)

Protected by copyright. Copying or publishing, in any form or by any means, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the accuracy of the information.

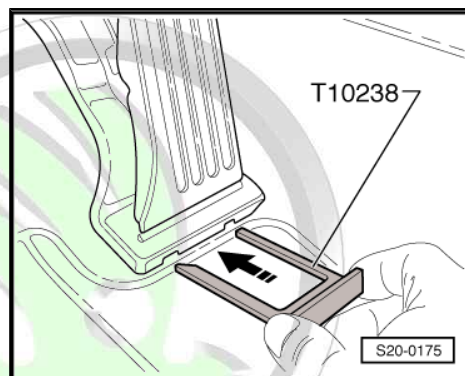
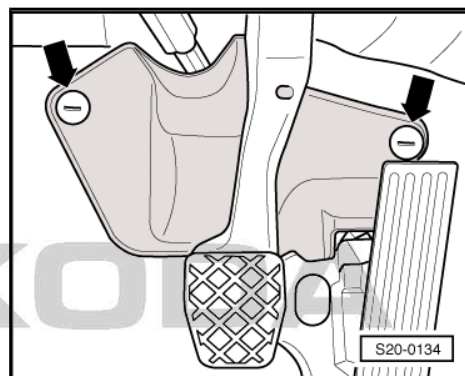
⇒ ["4.3.1 Removing and installing accelerator pedal module connector \(Octavia II, Yeti\)", page 239](#)

Special tools and workshop equipment required

- ◆ Release tool - T10238- (for left-hand drive vehicle)
- ◆ Release tool - T10240- (for right-hand drive vehicle)

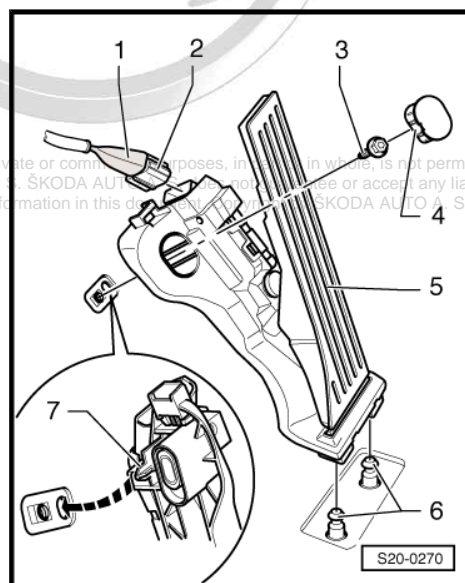
Removing

- Remove steering column trim panel -arrows-.
- Lever out the cap
(⇒ [“4.2 Summary of components - accelerator pedal module, Octavia II, Yeti”](#), page 237 , Pos. -4-) with a screwdriver.
- Release fixing screw
⇒ [“4.2 Summary of components - accelerator pedal module, Octavia II, Yeti”](#), page 237 , Pos. -3-.
- Push the release tool - T10238- (for right-hand drive release tool - T10240 -) as shown up to the stop into the provided openings and remove the accelerator pedal module.
- Disconnect connector at accelerator pedal module
⇒ [“4.3.1 Removing and installing accelerator pedal module connector \(Octavia II, Yeti\)”](#), page 239 .



Installing

- Fit the plug -2- onto the accelerator pedal module -5-
⇒ [“4.3.1 Removing and installing accelerator pedal module connector \(Octavia II, Yeti\)”](#), page 239 .
- The plug must lock audibly.
- Push accelerator pedal module onto the securing bolt -6-.
- Insert the centering pin -7- into the hole in the underbody.
- Screw on accelerator pedal module with screw -3- and fit on cap -4-.
- Re-install the cover for the steering column.
- If the accelerator pedal module was replaced, an adaptation of the engine control unit has to be performed on vehicles with automatic gearbox ⇒ Vehicle diagnostic tester.



Tightening torques

- ♦ Screw for accelerator pedal module
⇒ [“4.2 Summary of components - accelerator pedal module, Octavia II, Yeti”](#), page 237 .

4.3.1 Removing and installing accelerator pedal module connector (Octavia II, Yeti)



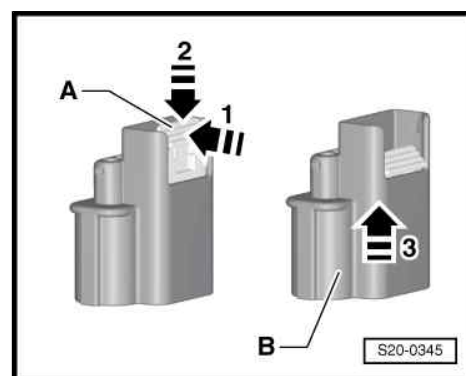
Note

The plugs for the accelerator pedal module which are inserted, must be disconnected and fit on in a different manner.

Disconnect connector 1K0 973 706

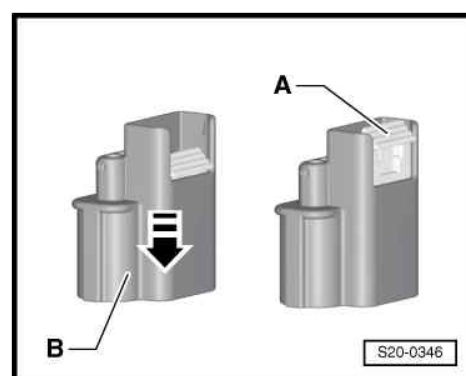
- Lightly press the piston slide valve -A- (grey) in direction of arrow -1- and slide as far as it can go in the direction of arrow -2-.
- Hold the piston slide valve in this position and disconnect the socket housing -B- towards the top in direction of arrow -3-.

The piston slide valve -A- remains in the bottom position.



Fit on connector 1K0 973 706

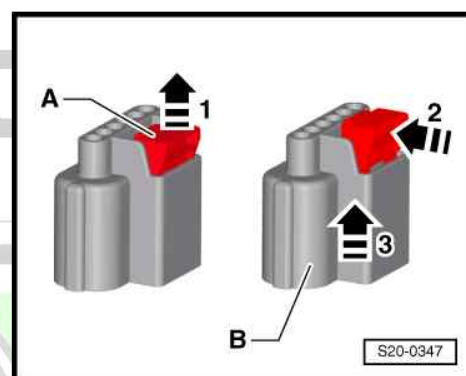
- Push the socket housing -B- down in -direction of arrow- until the housing can be heard to lock in place.
- The piston slide valve -A- moves automatically upwards.
- For safety reasons, check the connector for secure catch by tightening it in the opposite direction.



Disconnect connector 8K0 973 706

- Pull the piston slide valve -A- (red) upwards in direction of arrow -1- up to the stop.
- Press the piston slide valve in direction of arrow -2- and disconnect the socket housing -B- in direction of arrow -3-.

The piston slide valve -A- remains in the top position.

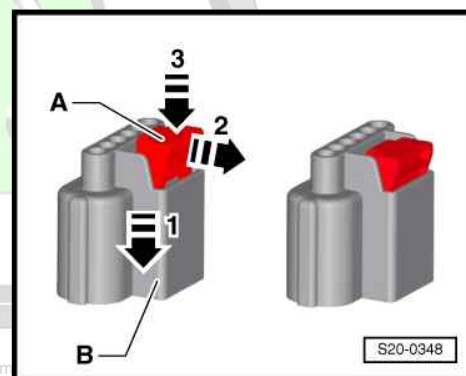


Fit on connector 8K0 973 706

- Push the socket housing -B- downwards up to the stop in direction of arrow -1-.
- Lightly press the piston slide valve in direction of arrow -2- and slide in the direction of arrow -3-.

The piston slide valve -A- can only be pushed downwards if the socket housing was pushed downwards »up to the stop«.

- For safety reasons, check the connector for secure catch by tightening it in the opposite direction.



5 Activated charcoal filter system

⇒ ["5.1 Summary of components - activated charcoal filter system, Fabia II", page 240](#)

⇒ ["5.2 Summary of components - activated charcoal filter system, Roomster, Rapid NH", page 241](#)

⇒ ["5.3 Summary of components - active charcoal filter system, Octavia II, Yeti", page 242](#)

⇒ ["5.4 Ventilation - Summary of components \(Fabia II, Roomster, Rapid NH\)", page 242](#)

⇒ ["5.5 Checking the fuel tank venting \(Octavia II, Yeti\)", page 243](#)

5.1 Summary of components - activated charcoal filter system, Fabia II

1 - Ventilation hose

2 - Activated charcoal filter solenoid valve 1 - N80- with connecting line

- ☐ attached with bracket to the intake manifold
- ☐ Valve is actuated (pulsed) by engine control unit - J623- when engine is warm
- ☐ Check ⇒ Vehicle diagnostic tester
- ☐ Valve closed when the ignition is switched off

3 - To the non-return valve

4 - Intake manifold

5 - Vent line

- ☐ check for firm seating

6 - Vent line with gravity valve

- ☐ check for firm seating

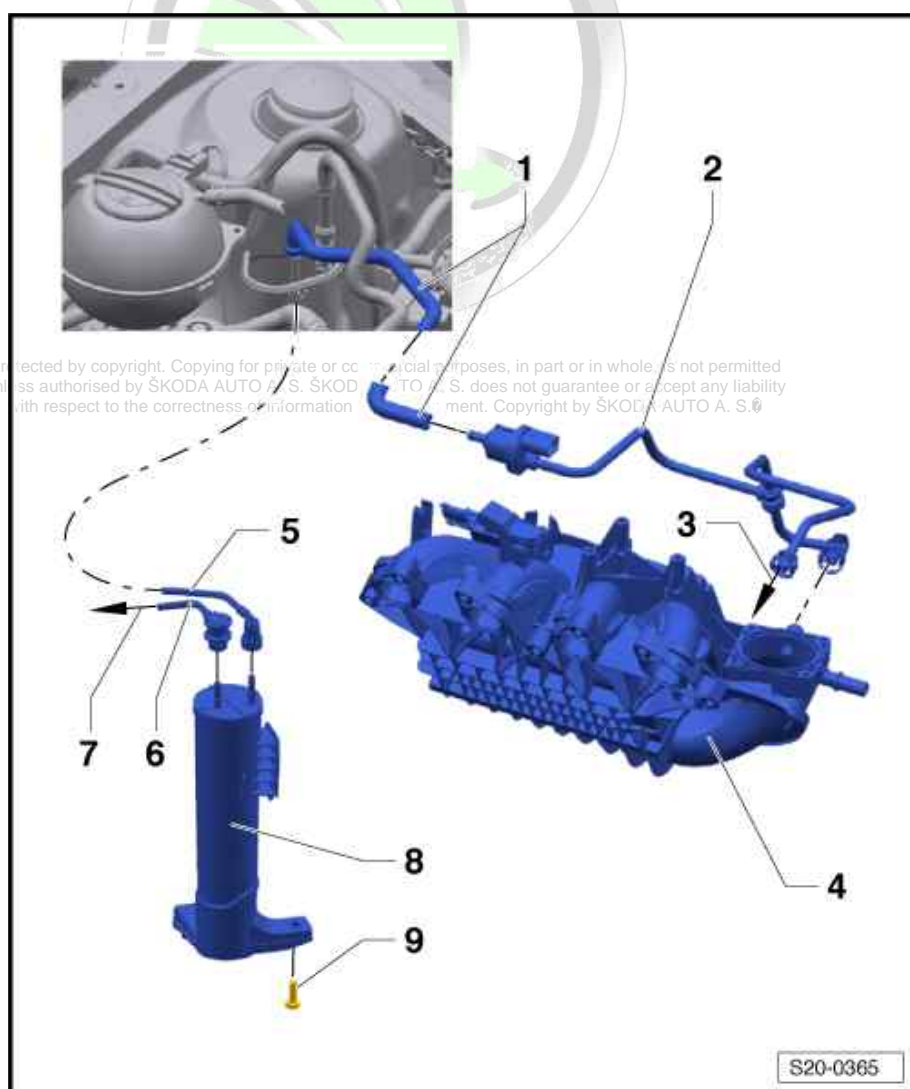
7 - To the fuel filler flap unit

8 - Activated charcoal filter

- ☐ Fitting location: in rear right wheelhouse
- ☐ attached to the vehicle body
- ☐ filled by solenoid valve - N80- and by gravity valve
- ☐ Checking the fuel tank venting

⇒ ["5.4 Ventilation - Summary of components \(Fabia II, Roomster, Rapid NH\)", page 242](#)

- ☐ removing:
 - Removing the rear right wheel.
 - Remove plastic wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
 - Disconnect lines -5- and -6-.



- Remove the activated charcoal filter from the body and push down.

9 - Screw

- 10 Nm

5.2 Summary of components - activated charcoal filter system, Roomster, Rapid NH

1 - Ventilation hose

2 - Activated charcoal filter solenoid valve 1 - N80- with connecting line

- attached with bracket to the intake manifold
- Valve is actuated (pulsed) by engine control unit - J623- when engine is warm
- Check ⇒ Vehicle diagnostic tester
- Valve closed when the ignition is switched off

3 - To the non-return valve

4 - Intake manifold

5 - Activated charcoal filter

- Fitting location: in rear right wheelhouse
- attached to the vehicle body
- filled by solenoid valve - N80- and by gravity valve
- Checking the fuel tank venting
⇒ ["5.4 Ventilation - Summary of components \(Fabia II, Roomster, Rapid NH\)", page 242](#)
- removing:
 - Removing the rear right wheel.

- Remove plastic wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Disconnect lines -6- and -7-.
- Remove the activated charcoal filter from the body and push down.

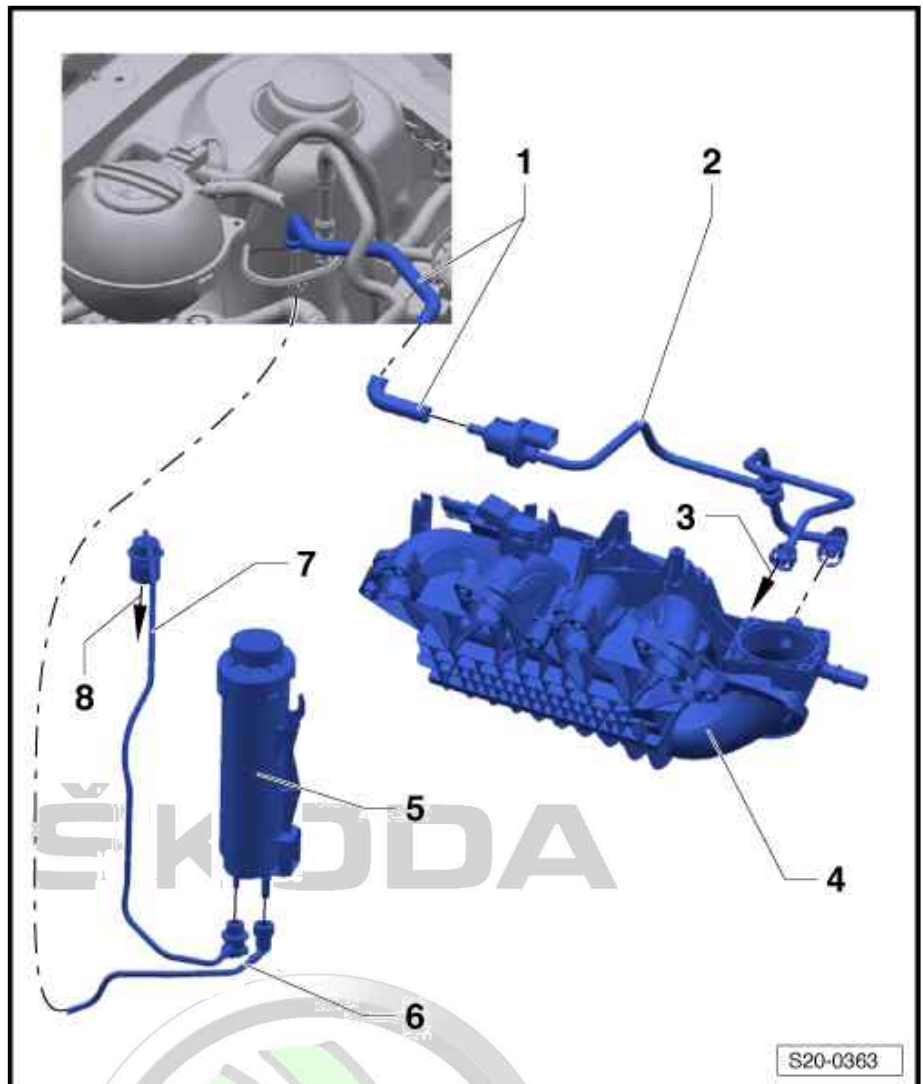
6 - Vent line

- check for firm seating

7 - Vent line with gravity valve

- check for firm seating

8 - To the fuel filler flap unit





5.3 Summary of components - active charcoal filter system, Octavia II, Yeti

1 - Activated charcoal filter

- ☐ Fitting position: in right of engine compartment
- ☐ if the catch peg is unlocked, the activated charcoal filter can be removed from the holder
- ☐ Checking the fuel tank venting
⇒ ["5.5 Checking the fuel tank venting \(Octavia II, Yeti\)", page 243](#)

2 - Pressure holding valve with connection hose

3 - Screw

- ☐ 8 Nm

4 - Vent line

- ☐ check for firm seating
- ☐ from fuel tank

5 - Nut

- ☐ 8 Nm

6 - Mounting bracket

- ☐ for activated charcoal filter

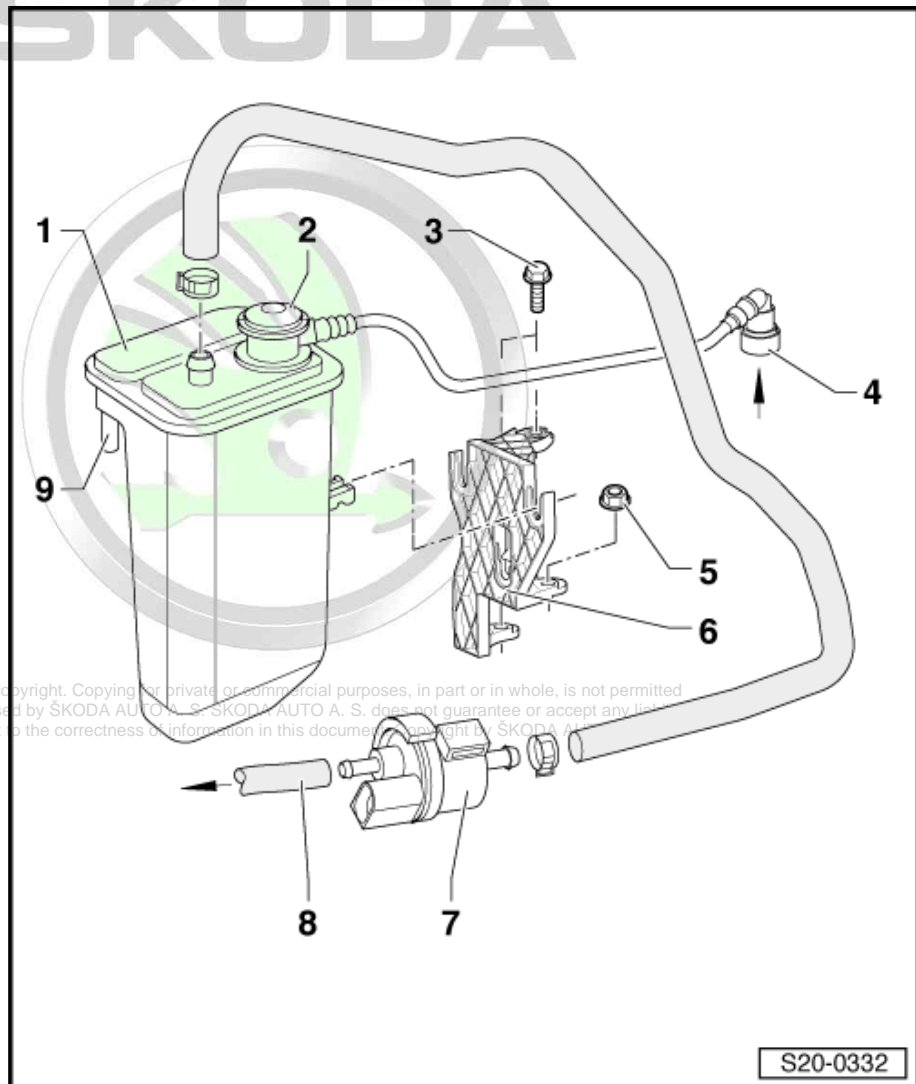
7 - activated charcoal filter solenoid valve 1 - N80-

- ☐ Valve closed when the ignition is switched off
- ☐ valve is actuated (pulsed) by engine control unit when engine is warm

8 - Connecting hose

- ☐ To intake manifold
- ☐ check for firm seating

9 - Air admission fitting



5.4 Ventilation - Summary of components (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Hand vacuum pump, e.g. - V.A.G. 1390- or Hand vacuum pump - VAS 6213-

Test condition

- Ignition must be switched off.

For vehicles Fabia II

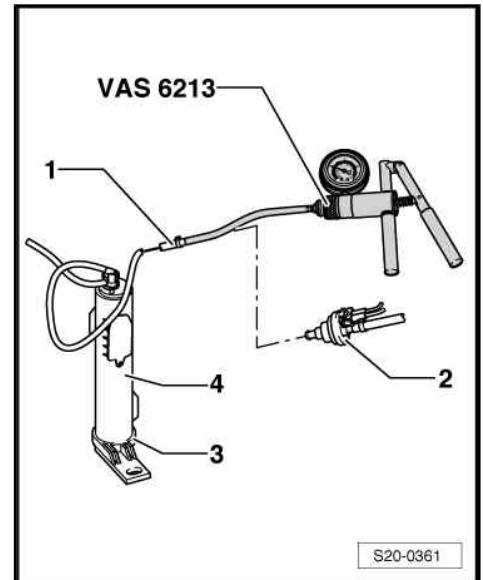
- Remove the ventilation line -1- from the activated charcoal filter to the activated charcoal filter system solenoid valve 1 - N80- -2-.
- Connect hand vacuum pump - VAS 6213- to vent line -1- as shown.
- Operate the hand vacuum pump several times. Vacuum must not build up.

If vacuum builds up:

- Check the ventilation opening -3- on the activated charcoal filter -4- for dirt and clean as required.

If vacuum does not build up:

- Shut off ventilation opening -3- on the activated charcoal filter and once again operate the hand vacuum pump several times. Vacuum must build up.



For vehicles Roomster, Rapid NH

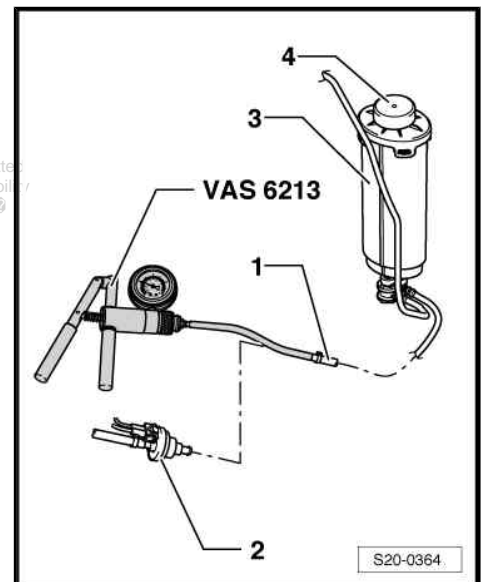
- Remove the ventilation line -1- from the activated charcoal filter to the activated charcoal filter system solenoid valve 1 - N80- -2-.
- Connect hand vacuum pump - VAS 6213- to vent line -1- as shown.
- Operate the hand vacuum pump several times. Vacuum must not build up.

If vacuum builds up:

- Check the ventilation opening below the cover -4- on the activated charcoal filter -3- for dirt and clean if necessary.

If vacuum does not build up:

- Remove the cover -4-, shut off the ventilation opening on the activated charcoal filter and once again operate the hand vacuum pump several times. Vacuum must build up.



Continued for all vehicles

If vacuum does not build up:

- Replace activated charcoal filter.

5.5 Checking the fuel tank venting (Octavia II, Yeti)

Special tools and workshop equipment required

- ◆ Hand vacuum pump , e.g. -VAS 6213-
- ◆ Adapter set , e.g. - V.A.G 1318/17A-
- ◆ Adapter , e.g. -V.A.G 1318/20-1-



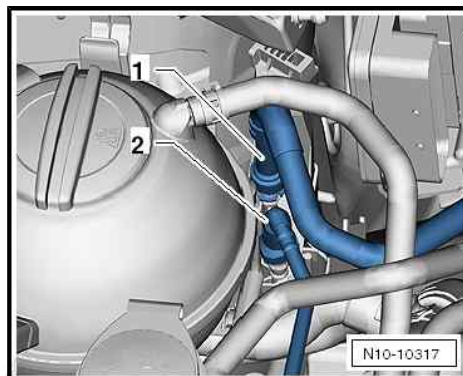
Note

- ◆ The adapter set - V.A.G 1318/17A- replaces the adapter set - V.A.G 1318/17- .
- ◆ Therefore, the figures in the description have not changed.

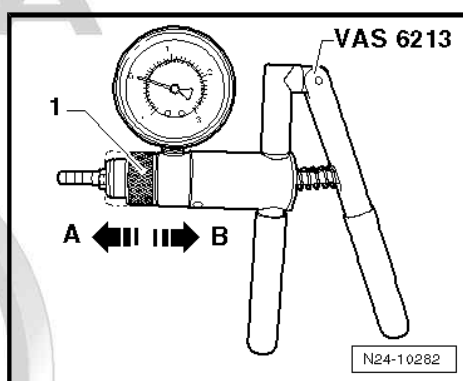


Test condition

- Ignition must be switched off.
- Detach vent line -2-. To do so press in the securing ring.



- Slide the shift ring -1- at the hand vacuum pump - VAS 6213- in -direction of arrow A- up to the stop.
- Operate the hand vacuum pump - VAS 6213 - several times.



- Then connect the hand vacuum pump - VAS 6213- -1-, to the vent line -2- as shown in the illustration.
- Operate the hand vacuum pump - VAS 6213- several times.
- Vacuum must not build up.

If vacuum builds up:

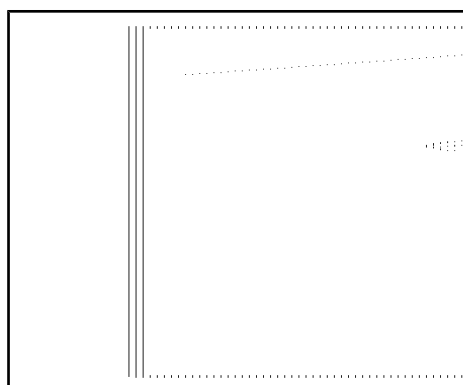
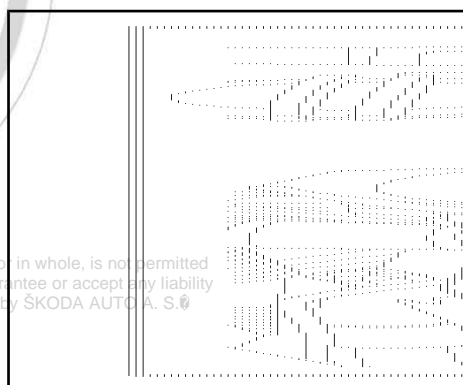
- Check the breather fitting on the activated charcoal filter for dirt and clean as required.

If vacuum does not build up:

- Seal the air admission fitting -arrow- and once again operate the vacuum pump several times.
- Vacuum must build up.

If vacuum does not build up:

- Replace activated charcoal filter.



21 – Turbocharging/supercharging

1 Exhaust gas turbocharger

⇒ [“1.1 Summary of components - exhaust gas turbocharger”, page 245](#)

⇒ [“1.2 Removing and installing exhaust gas turbocharger”, page 248](#)

⇒ [“1.3 Removing and installing charge pressure regulator V465”, page 252](#)

1.1 Summary of components - exhaust gas turbocharger

⇒ [“1.1.1 Summary of components 1 - exhaust gas turbocharger”, page 245](#)

⇒ [“1.1.2 Summary of components 2 - exhaust gas turbocharger”, page 247](#)

1.1.1 Summary of components 1 - exhaust gas turbocharger

1 - Connector

2 - Spacer

- ☐ only used on some turbochargers
- ☐ Spacer assignment ⇒ Electronic Catalogue of Original Parts

3 - Nut

- ☐ Replace after removal
- ☐ 8 Nm

4 - Charge pressure regulator - V465-

- ☐ Removing and installing
⇒ [“1.3 Removing and installing charge pressure regulator V465”, page 252](#)

5 - Circlip

- ☐ Replace after removal

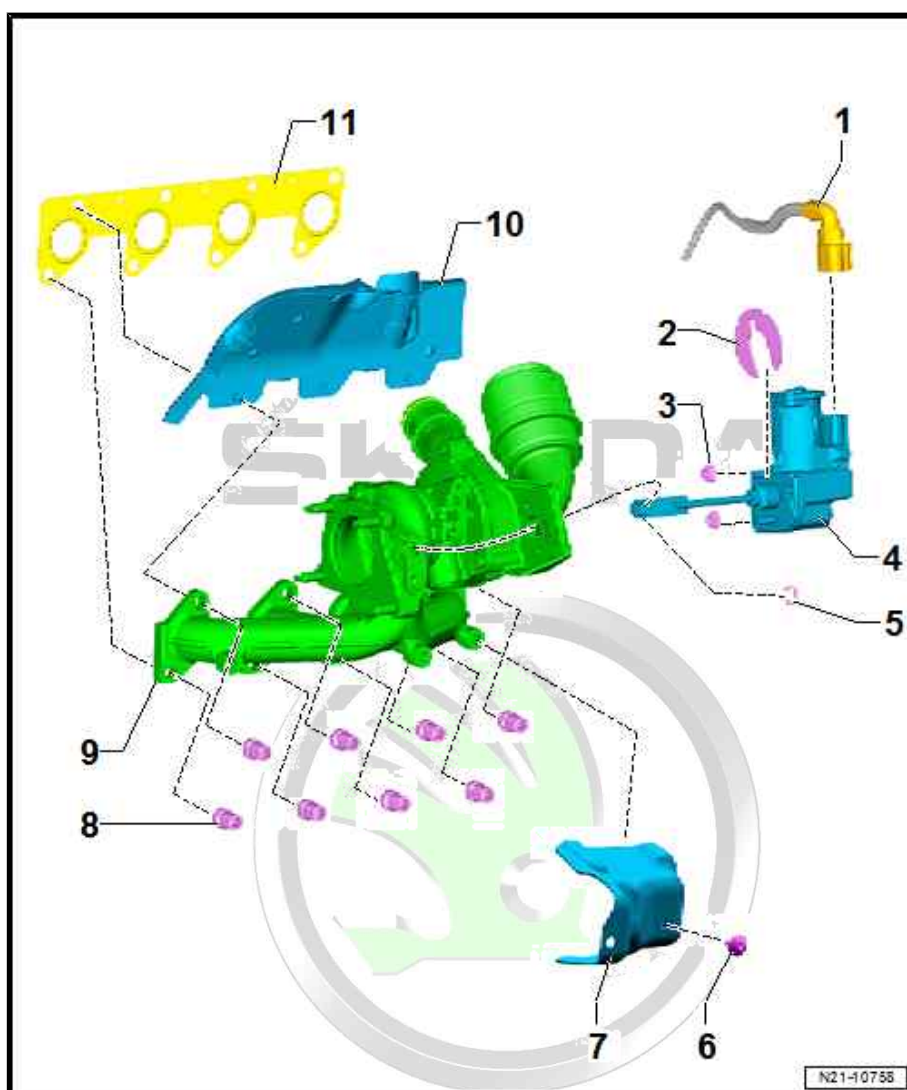
6 - Screw

- ☐ 10 Nm

7 - Heat shield

8 - Nut

- ☐ Replace after removal
- ☐ Observe tightening sequence
⇒ [“1.2 Removing and installing exhaust gas turbocharger”, page 248](#)
- ☐ 1st stage 18 Nm, 2nd stage 12 Nm, 3rd stage 12 Nm





Note

- ◆ *replace the pin bolts after unscrewing from the cylinder head*
- ◆ *Tightening torque pin bolts in cylinder head: 18 Nm*
- ◆ *The pin bolt should protrude above the cylinder head after it is installed: 25 mm*
- ◆ *Install pin bolt with coated side into the cylinder head*
- ◆ *Do not lubricate the coated part of the pin bolt with lubricating paste or oil*

9 - Exhaust turbocharger with exhaust manifold

- ☐ after replacement is complete, delete the adapted values ⇒ Vehicle diagnostic tester



Note

Turbocharger can only be replaced complete with exhaust manifold.

ŠKODA

- ☐ Removing and installing ⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#)

10 - Heat shield

11 - Seal

- ☐ Replace after removal



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1.1.2 Summary of components 2 - exhaust gas turbocharger

1 - Screw

- ☐ 8 Nm

2 - Pressure pipe

3 - Exhaust turbocharger with exhaust manifold

- ☐ after replacement is complete, delete the adapted values ⇒ Vehicle diagnostic tester



Note

Turbocharger can only be replaced complete with exhaust manifold.

- ☐ Removing and installing ⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#)

4 - Heat shield

5 - Screw

- ☐ 10 Nm

6 - O-ring

- ☐ Replace after removal

7 - Oil return pipe

8 - O-ring

- ☐ Replace after removal

9 - Screw

- ☐ 8 Nm

10 - Electrical line

11 - Mounting bracket

12 - Mounting bracket

13 - Lambda probe - G39-

- ☐ Tightening torque ⇒ ["1 Removing and installing parts of the exhaust system", page 293](#)

14 - Mounting bracket

15 - Screw

- ☐ 8 Nm

16 - Hollow screw

- ☐ 20 Nm

17 - O-ring

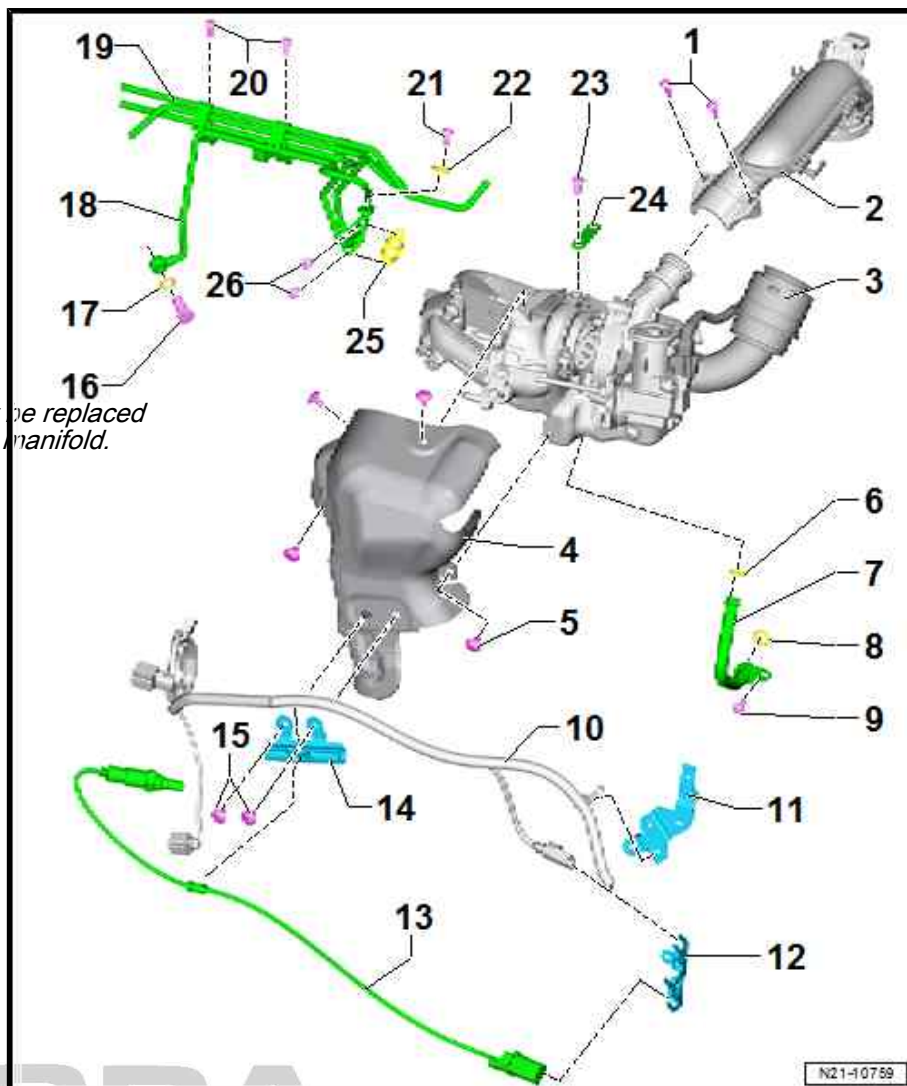
- ☐ 2
- ☐ Replace after removal

18 - Oil feed pipe

19 - Coolant pipes

20 - Screw

- ☐ 8 Nm





ŠKODA

21 - Screw

- ☐ 8 Nm

22 - O-ring

- ☐ Replace after removal

23 - Screw

- ☐ 20 Nm

24 - Mounting bracket

25 - Seal

- ☐ Replace after removal

26 - Screw

- ☐ 8 Nm



1.2 Removing and installing exhaust gas turbocharger

Special tools and workshop equipment required

- ◆ Pliers for spring-type clips
- ◆ Catch pan , e.g. -VAS 6208-
- ◆ Hot bolt paste - G 052 112 A3-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



Caution

In case a mechanical damage to the exhaust gas turbocharger is found, for example, damage to the compressor wheel, it is not sufficient to only replace the turbocharger. In order to avoid consequential damage, perform the following tasks:

- ◆ *Clean all oil lines.*
- ◆ *Change engine oil and oil filter.*
- ◆ *Inspect the air filter housing, the air filter element and the intake hoses for contaminations.*
- ◆ *Inspect the whole charge-air routing and the charge air cooler for foreign bodies.*

If foreign bodies are detected in the charge air system, the complete charge-air routing must be cleaned and if necessary the charge air cooler must also be replaced.



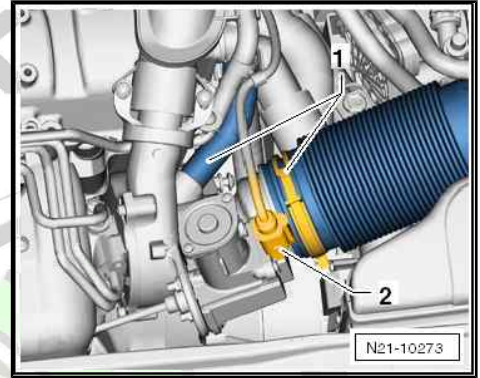
Note

- ◆ *Observe rules for cleanliness
⇒ ["2 Safety instructions", page 3](#) .*
- ◆ *Observe general instructions for charge-air system
⇒ ["3.8 General instructions for charge air system", page 9](#) .*

Removing

- Drain coolant ⇒ ["1.3 Draining and filling coolant", page 142](#) .

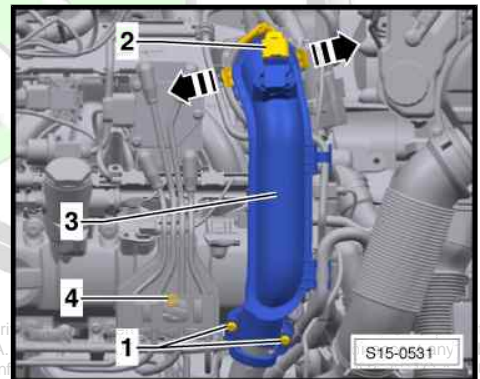
- Detach hoses -1- and plugs -2- from exhaust gas turbocharger.



For vehicles Fabia II, Roomster, Rapid NH

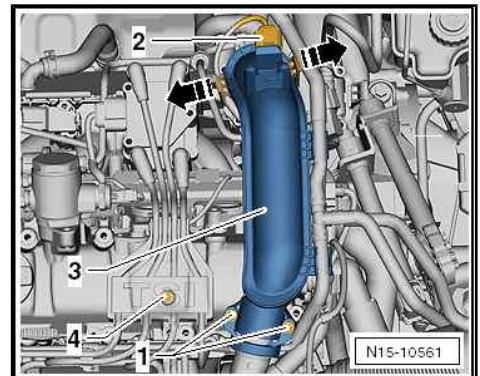
- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299 - .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338- and then from the exhaust gas turbocharger.
- Remove the cover for the ignition leads and release the fixing screw -4-.

Protected by copyright. Copying for private use is permitted unless authorised by ŠKODA AUTO A.S. with respect to the correctness of information.



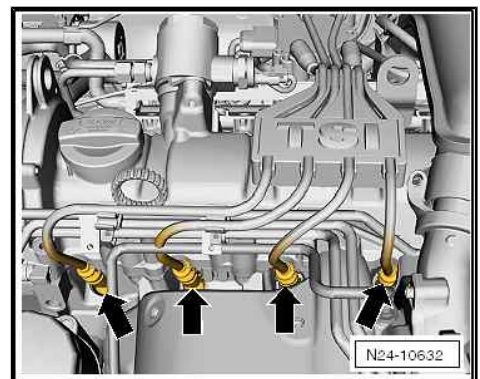
For the vehicles Octavia II, Yeti

- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299 - .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.
- Remove the cover for the ignition leads and release the fixing screw -4-.



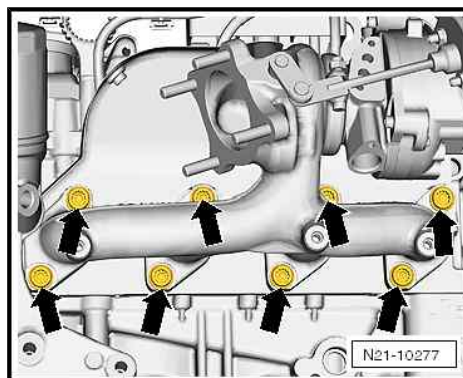
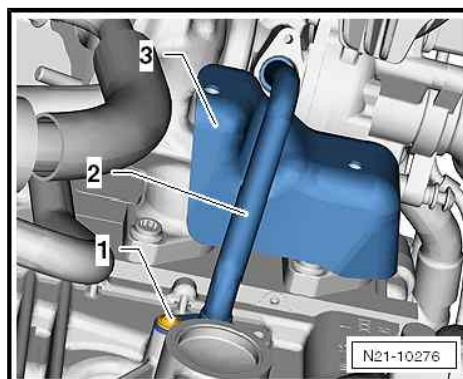
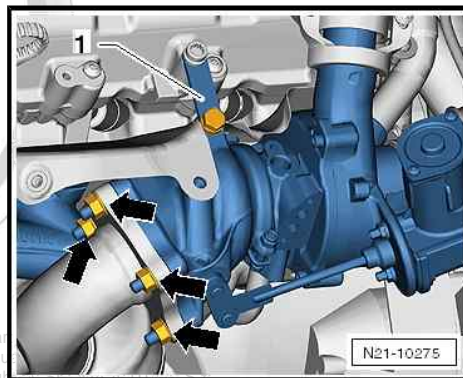
Continued for all vehicles

- Disconnect all the spark plug connectors -arrows- using the extractor - T10112 A- from the spark plugs and lay the ignition cables to the rear.



- 

A detailed diagram of a water bath system. It shows a large blue cylindrical tank with a white liquid level. Five numbered callouts point to specific components: 1 points to a side inlet/outlet, 2 points to a top inlet/outlet, 3 points to a top outlet, 4 points to a yellow cable connected to the side, and 5 points to a yellow cable connected to the bottom. Arrows indicate flow: a black arrow points down into the tank from the top, a white arrow points up from the side inlet, and two black arrows point down from the bottom of the tank. A striped arrow points to a bundle of pipes on the right side. A label 'N21-10274' is in the bottom right corner.



- Rep. gr.21 - Turbocharging/supercharging

- Tighten the fixing nuts consecutively in three stages in the specified order -1- to -8-.

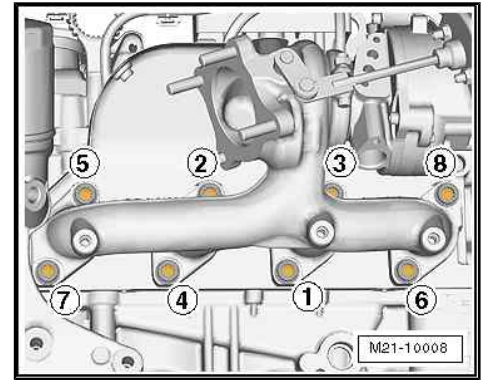
Stage	Tightening torque
1.	18 Nm
2.	12 Nm
3.	12 Nm



Caution

The fixing nuts are tightened to the prescribed tightening sequence and in three stages.

If the tightening sequence is not kept, this could lead to an incorrect position of the gaskets of the exhaust gas turbocharger and/or result in a drop of the tightening torque of some nuts.



Installation is carried out in the reverse order. When installing, note the following:



Note

- ◆ To ensure the oil supply to the exhaust gas turbocharger, leave the engine running for about 1 minute after installing the exhaust gas turbocharger.
- ◆ Replace the gaskets, the sealing rings and the self-locking nuts.
- ◆ Fill the exhaust turbocharger with engine oil at the connection fitting for the oil feed line.
- ◆ Hose connections and hoses for the charge air system must be free of oil and grease before being installed.
- ◆ Secure all hose connections with corresponding hose clips.
- Top up coolant
⇒ ["1.3 Draining and filling coolant", page 142](#) .
- After replacing the exhaust gas turbocharger with charge pressure regulator - V465- delete the adapted values ⇒ Vehicle diagnostic tester.

Tightening torques

- ◆ Exhaust gas turbocharger
⇒ ["1.1.1 Summary of components 1 - exhaust gas turbocharger", page 245](#) .
- ◆ Catalytic converter and component parts - Summary of components (Fabia II, Roomster, Rapid NH)
⇒ ["1.1 Overview of components - catalysts and attachments, Fabia II, Roomster, Rapid NH", page 293](#) .
- ◆ Catalytic converter and component parts - Summary of components (Octavia II, Yeti)
⇒ ["1.2 Summary of components - catalyst and attachments, Octavia II, Yeti", page 296](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



1.3 Removing and installing charge pressure regulator - V465-

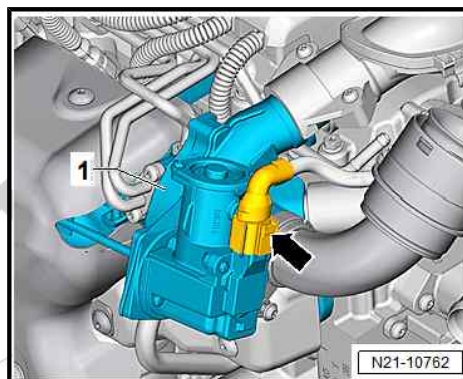
Removing



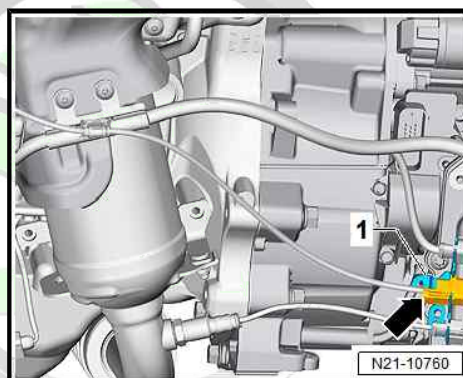
Note

- ◆ *The procedure for removing and installing the charge pressure regulator - V465- only applies to selected turbochargers.*
- ◆ *For assignment of the part numbers of turbochargers with the option of removing and installing the charge pressure regulator - V465- , see the ⇒ Electronic Catalogue of Original Parts .*

- Switch off ignition.
- Disconnect plug -arrow- from the charge pressure regulator - V465- -1-.

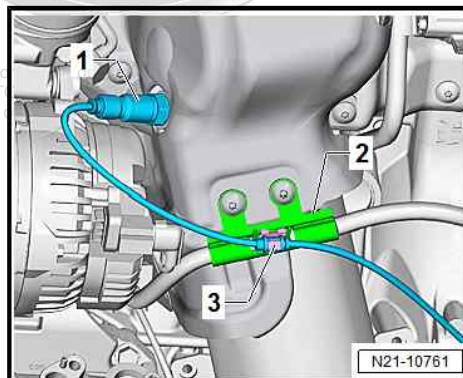


- Disconnect plug for lambda probe - G39- -arrow- and at the same time take the plug -arrow- off the mounting bracket -1-.



- Disconnect line of the lambda probe - G39- -1- from the line holder -3-.

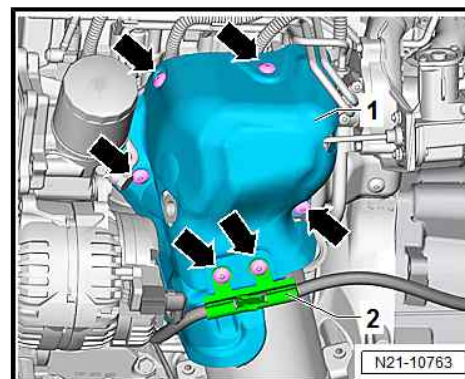
- Remove lambda probe - G39- -1-.



Protected by copyright. Copying for
unless authorised by ŠKODA AUT
with respect to the correctness

permitted
by liability
A. S. 0

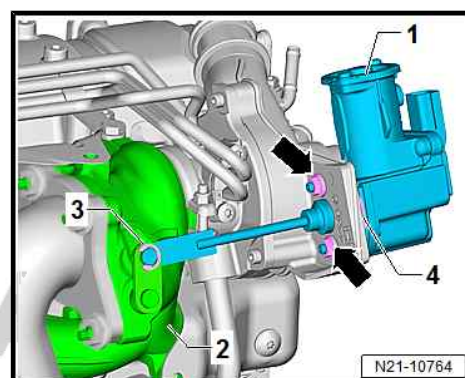
- Remove the fixing screws -arrows- and move the heat shield -1- to the side to get to the control bar.



- Take off circlip -3-.
- Unscrew nuts -arrows- and take off charge pressure regulator - V465- -1-.

Installing

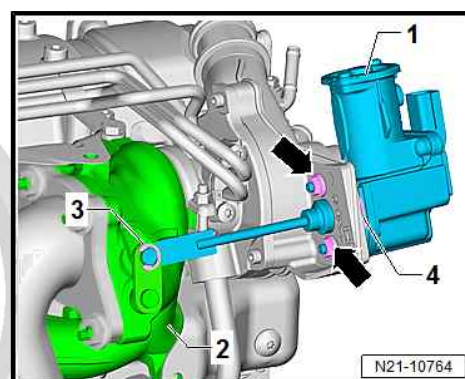
Installation is carried out in the reverse order. When installing, observe the following:



- Screw on charge pressure regulator - V465- with new nuts.
- Install new circlip -3-.
- Adapting the engine control unit - J623- to the charge pressure regulator - V465- ⇒ Vehicle diagnostic tester.

Tightening torques

- ◆ Screws for charge pressure regulator - V465-
⇒ ["1.1.1 Summary of components 1 - exhaust gas turbocharger"](#), page 245 .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®



2 Charge-air system

⇒ ["2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH", page 254](#)

⇒ ["2.2 Summary of components - charge-air system, Octavia II, Yeti", page 255](#)

⇒ ["2.3 Removing and installing charge air cooler", page 257](#)

2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH



Note

- ◆ The radiator and the charge air cooler are separate parts.
- ◆ The radiator is fitted onto the charge air cooler.
- ◆ The radiator and the charge air cooler are removed and installed together
⇒ ["3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)", page 158](#).

1 - Radiator

- ☐ Removing and installing
⇒ ["3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)", page 158](#)

2 - Intake manifold

- ☐ Removing and installing
⇒ ["2.4 Removing and installing intake manifold", page 270](#)

3 - Seal

- ☐ pay attention to correct seating when installing the charge air cooler

4 - Seal

- ☐ replace if damaged
- ☐ pay attention to correct seating when installing the charge air cooler

5 - Charge-air cooler in intake manifold

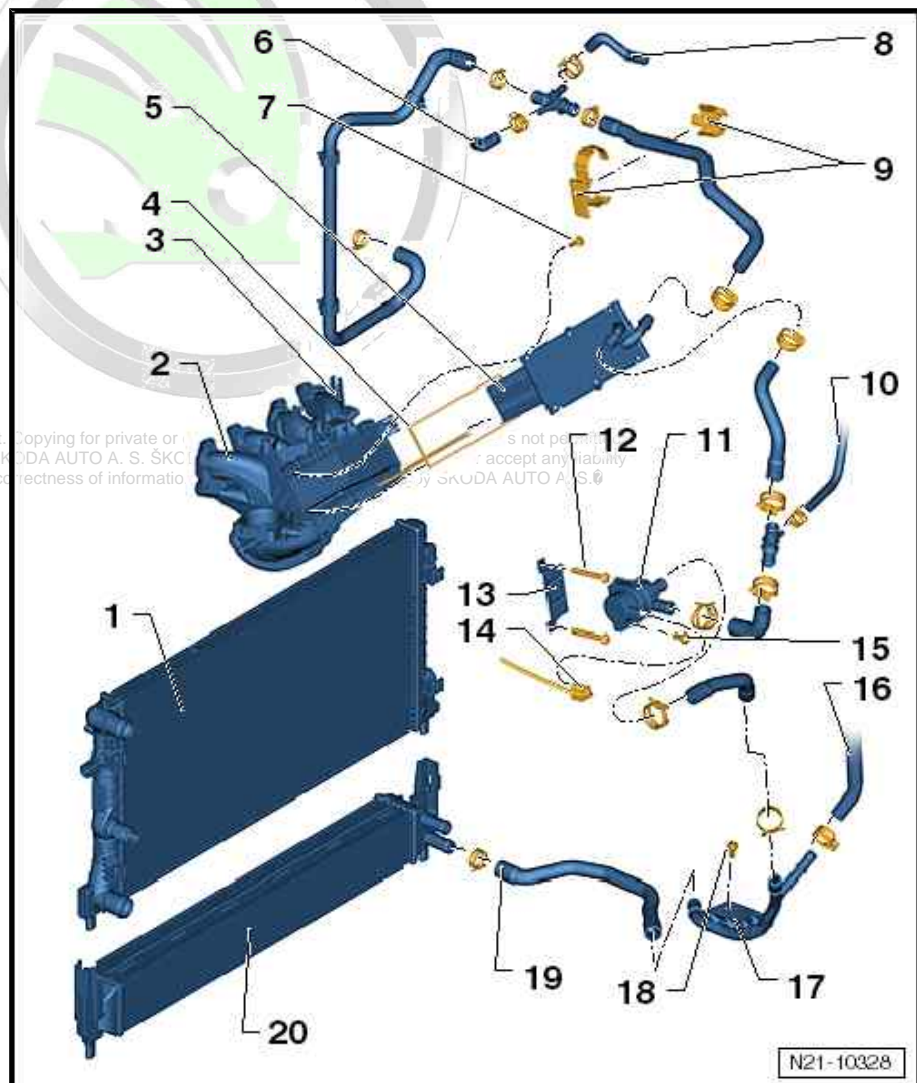
- ☐ Removing and installing
⇒ ["2.3 Removing and installing charge air cooler", page 257](#)

6 - Coolant hose

- ☐ to exhaust gas turbo-charger

7 - Screw

- ☐ when installing first tighten evenly by hand, then tighten crosswise



from the inside to the
outside to the recommended tightening torque

- ☐ 7 Nm

8 - Coolant hose

- ☐ to the expansion reservoir

9 - Hose clamp

- ☐ attached to the timing case

10 - Coolant hose

- ☐ to exhaust gas turbocharger

11 - Coolant recirculation pump - V50-

- ☐ Removing and installing ⇒ [“2.4 Removing and installing coolant recirculation pump V50 ”, page 149](#)

12 - Screw

- ☐ 8 Nm

13 - Mounting bracket

14 - Connector

15 - Screw

- ☐ 10 Nm

16 - Coolant hose

- ☐ to engine oil cooler

17 - Coolant pipe

- ☐ attached to the oil pan

18 - Screw

- ☐ 8 Nm

19 - Bottom coolant hose

20 - Charge air cooler

- ☐ Removing and installing
⇒ [“3.5 Removing and installing radiator \(Fabia II, Roomster, Rapid NH\)”, page 158](#)

2.2 Summary of components - charge-air system, Octavia II, Yeti



Note

- ◆ *This engine is fitted with a radiator combination of engine and low temperature radiators for charge air system.*
- ◆ *Engine and low temperature radiators are arranged as one component part.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



1 - Radiator with low temperature radiator for charge air system

- ☐ Removing and installing
⇒ ["3.6 Removing and installing radiator \(Octavia II, Yeti\)", page 160](#)

2 - Intake manifold

- ☐ Removing and installing
⇒ ["2.4 Removing and installing intake manifold", page 270](#)

3 - Seal

- ☐ pay attention to correct seating when installing the charge air cooler

4 - Seal

- ☐ replace if damaged
- ☐ pay attention to correct seating when installing the charge air cooler

5 - Charge air cooler

- ☐ Removing and installing
⇒ ["2.3 Removing and installing charge air cooler", page 257](#)

6 - Coolant hose

- ☐ to exhaust gas turbo-charger

7 - Screw

- ☐ when installing first tighten evenly by hand, then tighten crosswise from the inside to the outside to the recommended tightening torque
- ☐ 7 Nm

8 - Coolant hose

- ☐ to the expansion reservoir

9 - Hose clamp

- ☐ attached to the timing case

10 - Coolant hose

- ☐ to exhaust gas turbocharger

11 - Coolant recirculation pump - V50-

- ☐ Removing and installing ⇒ ["2.4 Removing and installing coolant recirculation pump V50 ", page 149](#)

12 - Screw

- ☐ 8 Nm

13 - Mounting bracket

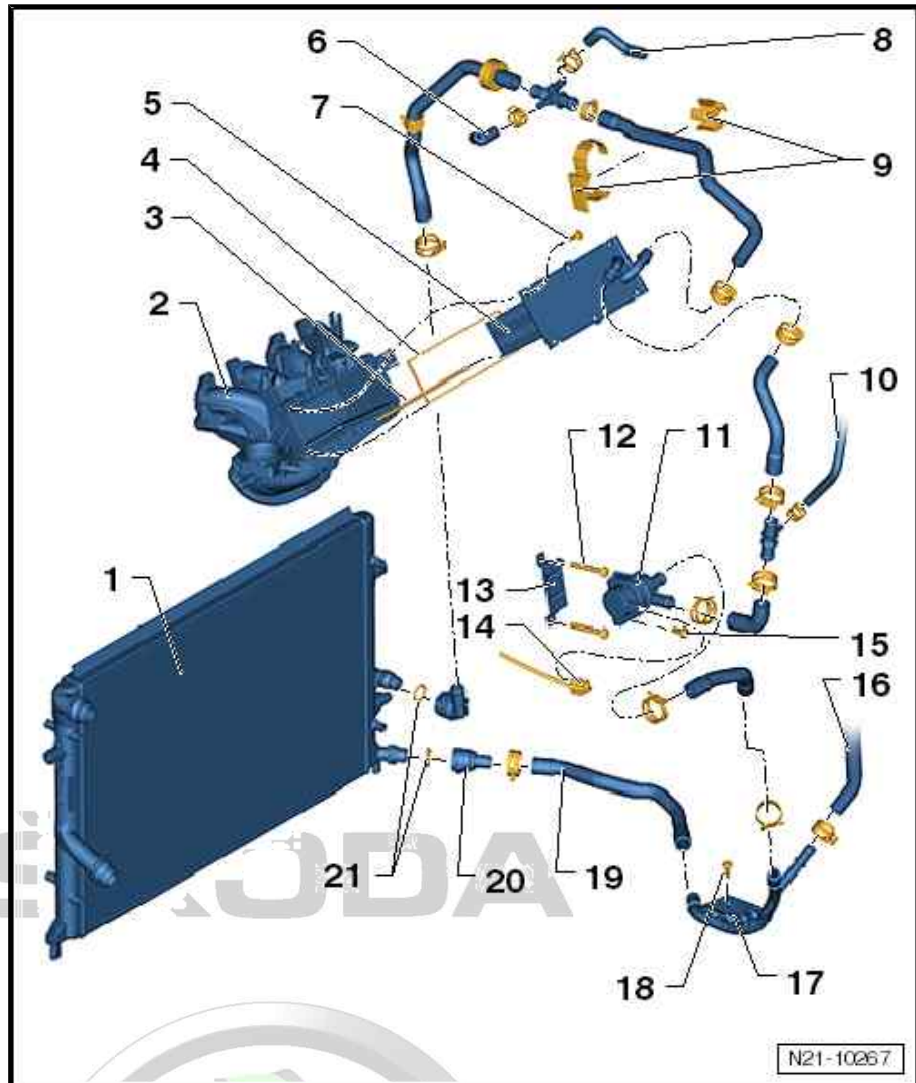
14 - Connector

15 - Screw

- ☐ 10 Nm

16 - Coolant hose

- ☐ to engine oil cooler



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

17 - Coolant pipe

- ☐ attached to the oil pan

18 - Screw

- ☐ 8 Nm

19 - Bottom coolant hose

20 - Connection fitting

21 - O-ring

- ☐ replace if damaged

2.3 Removing and installing charge air cooler

Special tools and workshop equipment required

- ◆ Hose clamps up to \varnothing 25 mm - MP7-602 (3094)-
- ◆ Pliers for spring-type clips
- ◆ Catch pan , e.g. -VAS 6208-



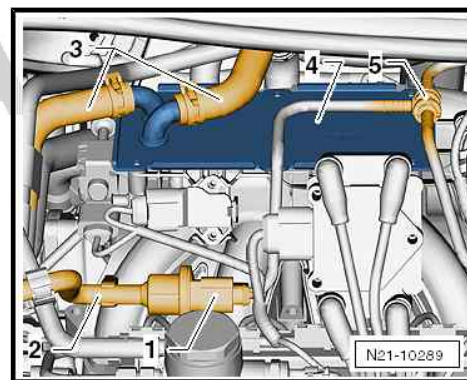
Note

Observe the general notes for assembly work on the charge air system

⇒ ["3.8 General instructions for charge air system", page 9](#).

Removing

- Disconnect plug -1- and hose -2- from activated charcoal filter system solenoid valve 1 - N80-.
- Remove the lines with the non-return valve -5- and the activated charcoal filter system solenoid valve 1 - N80- from the intake manifold.
- Disconnect coolant hoses -3- with hose clamps - 3094 - and detach from charge-air cooler.
- Release the fixing screws of the ignition transformer - N152- and carefully place the ignition transformer onto the cylinder head cover.
- Release fixing screws at charge air cooler -4-.
- Carefully pull the charge air cooler -4- out of the intake manifold.



Note

Pour the residual coolant out of the charge air cooler into a collecting tank.

Installing

Installation is carried out in the reverse order. When installing, observe the following:

copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®

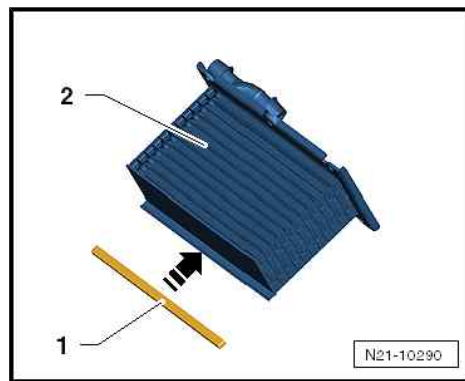


- Slide the seal -1- in -direction of arrow- onto the edge of the charge air cooler -2-.
- Check the correct seating of the new gasket at the intake manifold.
- Slide the charge air cooler into the intake manifold.
- Press down the charge-air cooler up to the stop into the intake manifold.



Note

Do not tilt the charge-air cooler when installing.



- First tighten the fixing screws uniformly crosswise until the screw heads are positioned.
- Tighten the fixing screws crosswise to the tightening torque.

Tightening torques

- ◆ Screws for charge air cooler (Fabia II, Roomster, Rapid NH)
⇒ [“2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH”, page 254](#) .
- ◆ Screws for charge air cooler (Octavia II, Yeti)
⇒ [“2.2 Summary of components - charge-air system, Octavia II, Yeti”, page 255](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

24 – Mixture preparation - injection

1 Injection system

⇒ [“1.1 Fitting position overview - engine compartment, Fabia II, Roomster, Rapid NH”, page 259](#)

⇒ [“1.2 Fitting location overview - Engine compartment, Octavia II, Yeti”, page 261](#)

1.1 Fitting position overview - engine compartment, Fabia II, Roomster, Rapid NH

1 - Oil pressure switch - F1-

- ☐ in the left cylinder head
- ☐ Check
⇒ [“1.9 Testing oil pressure and oil pressure switch F1”, page 138](#)

2 - Solenoid valve for coolant circuit - N492-

3 - activated charcoal filter solenoid valve 1 - N80-

4 - Intake manifold pressure sender - G71- and intake air temperature sender - G42-

5 - Control valve for fuel pressure - N276-

6 - Knock sensor 1 - G61-

- ☐ at rear cylinder block
- ☐ 20 Nm

7 - Hall sender - G40-

8 - Ignition transformer - N152-

- ◆ D ignition transformer = ignition cable cyl. 1
- ◆ B ignition transformer = ignition cable cyl. 2
- ◆ C ignition transformer = ignition cable cyl. 3
- ◆ A ignition transformer = ignition cable cyl. 4

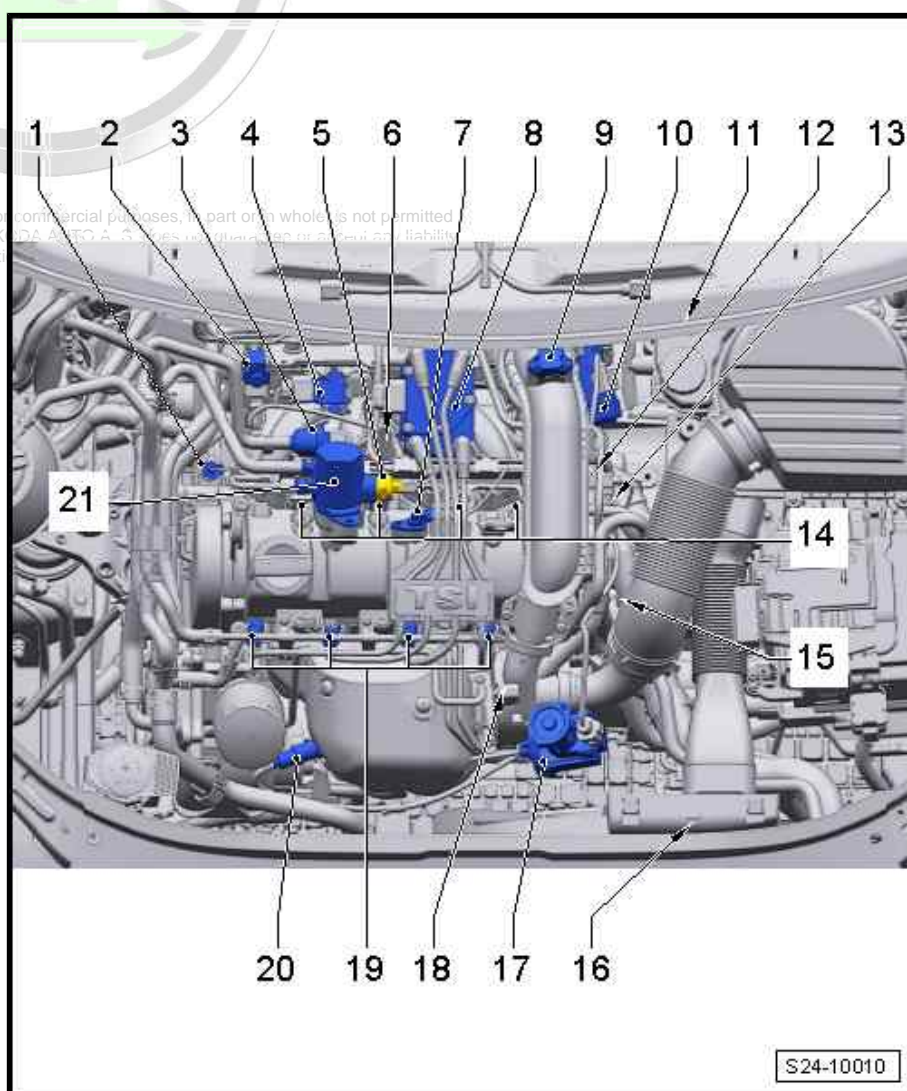
9 - Charge pressure encoder - G31- with intake air temperature encoder 2 - G299-

10 - Throttle valve control unit - J338-

- ☐ Removing and installing ⇒ [“2.2 Removing and installing the throttle valve control unit J338”, page 267](#)
- ☐ clean ⇒ [“2.3 Cleaning throttle valve control unit J338”, page 269](#)
- ☐ in case of replacement, erase initialisation values and adapt the engine control unit - J623- ⇒ Vehicle diagnostic tester.

11 - Engine control unit - J623-

- ☐ Removing and installing
⇒ [“7.1 Removing and installing engine control unit J623 \(Fabia II, Roomster, Rapid NH\)”, page 290](#)





12 - Fuel pressure sender - G247-

- ☐ Check ⇒ [“6.1 Check fuel pressure sender G247”, page 287](#)

13 - engine speed sender - G28-

- ☐ Removing and installing ⇒ [“1.2 Removing and installing the engine speed sender G28”, page 311](#)

14 - Injection valves

- ◆ Injection valve for cylinder 1 - N30-
- ◆ Injection valve for cylinder 2 - N31-
- ◆ Injection valve for cylinder 3 - N32-
- ◆ Injection valve for cylinder 4 - N33-
 - ☐ with Teflon gasket ring and supporting washer
 - ☐ after removing the injection valve, the Teflon gasket ring and the supporting washer must be replaced ⇒ [“5.2 Replace Teflon gasket ring and supporting washer at injection valve”, page 282](#)
 - ☐ Remove and install injection valve ⇒ [“5.1 Removing and installing injectors”, page 280](#)
 - ☐ Clean injection valves ⇒ [“5.3 Clean injectors”, page 285](#)

15 - Coolant temperature sender - G62-

16 - Thermostat for radiator fan - F18-

- ☐ for fan
- ☐ 35 Nm

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

17 - Charge pressure regulator - V465 -



Note

The charge pressure regulator - V465- can only be replaced complete with exhaust gas turbocharger and exhaust manifold.

18 - Lambda probe downstream of catalytic converter - G130- and heater of lambda probe 1 downstream of catalytic converter - Z29-

19 - Spark plug

- ☐ 25 Nm

20 - lambda probe - G39- and heating for lambda probe - Z19-

21 - High pressure pump with fuel pressure regulating valve - N276-

- ☐ Removing and installing ⇒ [“4.2 Removing and installing the high pressure pump”, page 277](#)

1.2 Fitting location overview - Engine compartment, Octavia II, Yeti

1 - Oil pressure switch - F1-

- ☐ in the left cylinder head
- ☐ Check
⇒ ["1.9 Testing oil pressure and oil pressure switch F1", page 138](#)

2 - Solenoid valve for coolant circuit - N492-

3 - activated charcoal filter solenoid valve 1 - N80-

4 - Intake manifold pressure sender - G71- and intake air temperature sender - G42-

5 - Engine control unit - J623-

- ☐ Removing and installing
⇒ ["7.2 Removing and installing engine control unit J623 \(Octavia II, Yeti\)", page 291](#)

6 - Control valve for fuel pressure - N276-

7 - Knock sensor 1 - G61-

- ☐ at rear cylinder block
- ☐ 20 Nm

8 - Hall sender - G40-

9 - Ignition transformer - N152-

- ◆ D ignition transformer = ignition cable cyl. 1
- ◆ B ignition transformer = ignition cable cyl. 2
- ◆ C ignition transformer = ignition cable cyl. 3
- ◆ A ignition transformer = ignition cable cyl. 4

10 - Charge pressure encoder - G31- with intake air temperature encoder 2 - G299-

11 - Throttle valve control unit - J338-

- ☐ Removing and installing ⇒ ["2.2 Removing and installing the throttle valve control unit J338", page 267](#)
- ☐ clean ⇒ ["2.3 Cleaning throttle valve control unit J338", page 269](#)
- ☐ in case of replacement, erase initialisation values and adapt the engine control unit - J623- ⇒ Vehicle diagnostic tester.

12 - Fuel pressure sender - G247-

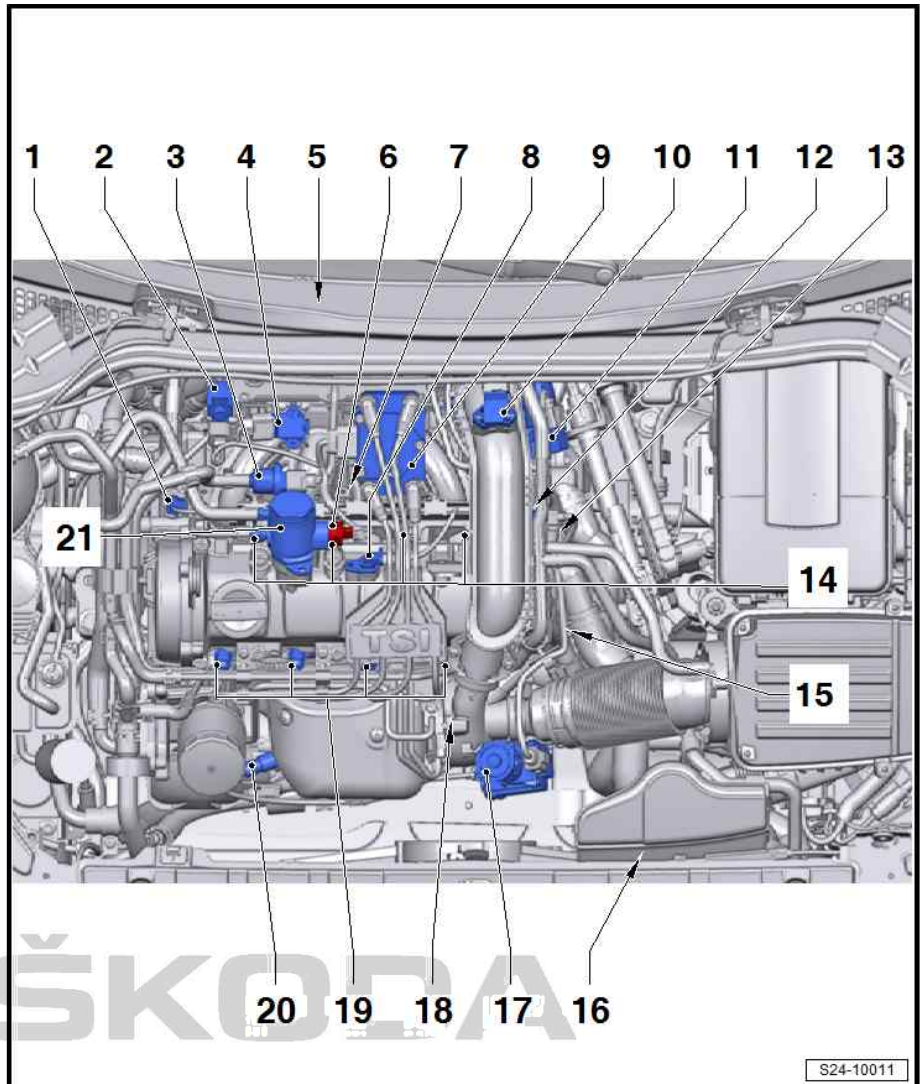
- ☐ Check ⇒ ["6.1 Check fuel pressure sender G247", page 287](#)

13 - engine speed sender - G28-

- ☐ Removing and installing ⇒ ["1.2 Removing and installing the engine speed sender G28", page 311](#)

14 - Injection valves

- ◆ Injection valve for cylinder 1 - N30-
- ◆ Injection valve for cylinder 2 - N31-
- ◆ Injection valve for cylinder 3 - N32-



S24-10011



◆ Injection valve for cylinder 4 - N33-

- ☐ with Teflon gasket ring and supporting washer
- ☐ after removing the injection valve, the Teflon gasket ring and the supporting washer must be replaced
⇒ ["5.2 Replace Teflon gasket ring and supporting washer at injection valve", page 282](#)
- ☐ Remove and install injection valve ⇒ ["5.1 Removing and installing injectors", page 280](#)
- ☐ Clean injection valves ⇒ ["5.3 Clean injectors", page 285](#)

15 - Coolant temperature sender - G62-

16 - Coolant temperature sender at radiator outlet - G83-

17 - Charge pressure regulator - V465 -



Note

The charge pressure regulator - V465- can only be replaced complete with exhaust gas turbocharger and exhaust manifold.

18 - Lambda probe downstream of catalytic converter - G130- and heater of lambda probe 1 downstream of catalytic converter - Z29-

19 - Spark plug

- ☐ 25 Nm

20 - lambda probe - G39- and heating for lambda probe - Z19-

21 - High pressure pump with fuel pressure regulating valve - N276-

- ☐ Removing and installing ⇒ ["4.2 Removing and installing the high pressure pump", page 277](#)

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

2 Intake manifold

⇒ [“2.1 Assembly overview - intake manifold”, page 263](#)

⇒ [“2.2 Removing and installing the throttle valve control unit J338”, page 267](#)

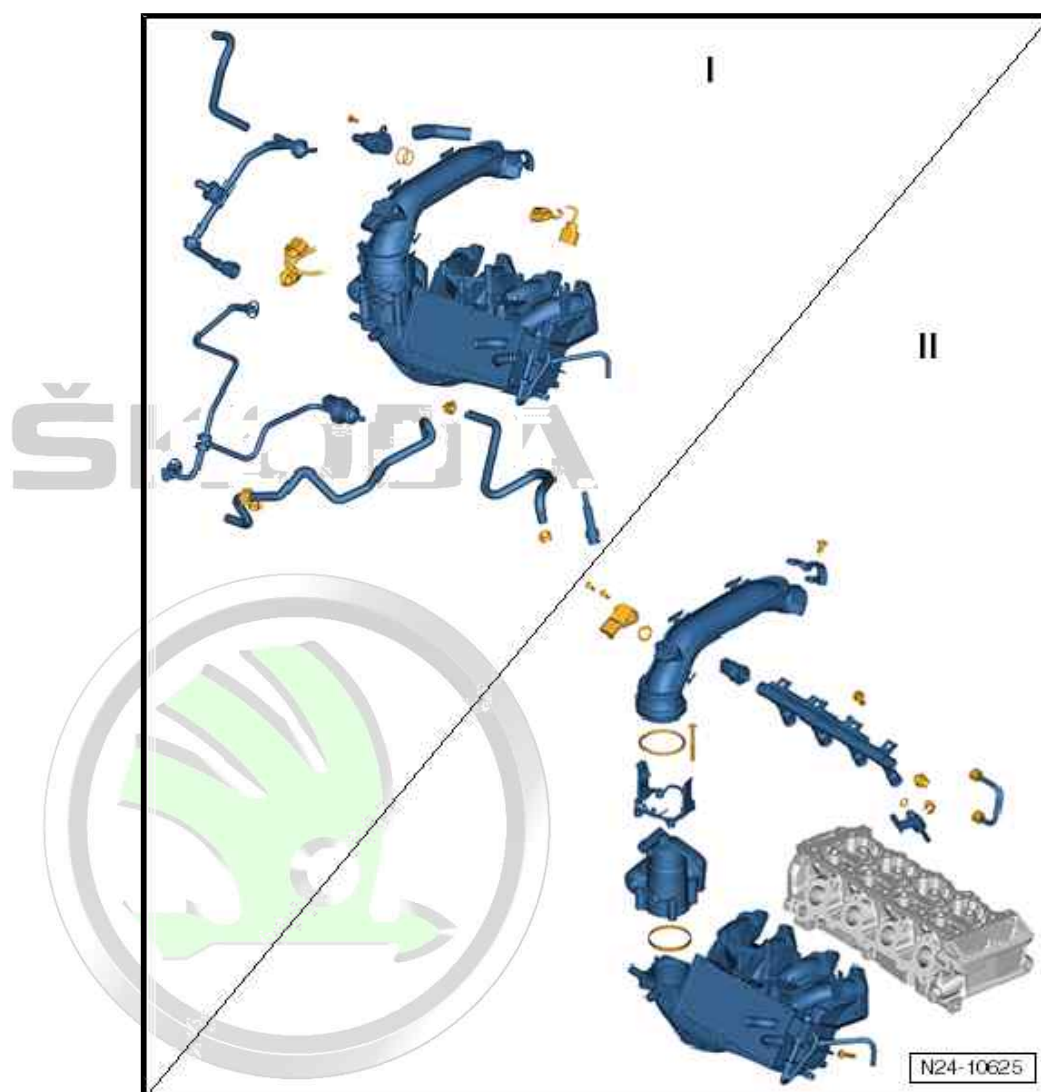
⇒ [“2.3 Cleaning throttle valve control unit J338”, page 269](#)

⇒ [“2.4 Removing and installing intake manifold”, page 270](#)

2.1 Assembly overview - intake manifold

⇒ [“2.1.1 Summary of components - intake manifold part I”, page 264](#)

⇒ [“2.1.2 Summary of components - suction pipe, part II”, page 266](#)



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®



2.1.1 Summary of components - intake manifold part I

1 - Connecting hose

- ☐ to air filter housing

2 - Connector

- ☐ for intake manifold pressure sender - G71-

3 - Connector

- ☐ for solenoid valve for coolant pump control

4 - Screw

- ☐ 10 Nm

5 - Non-return valve

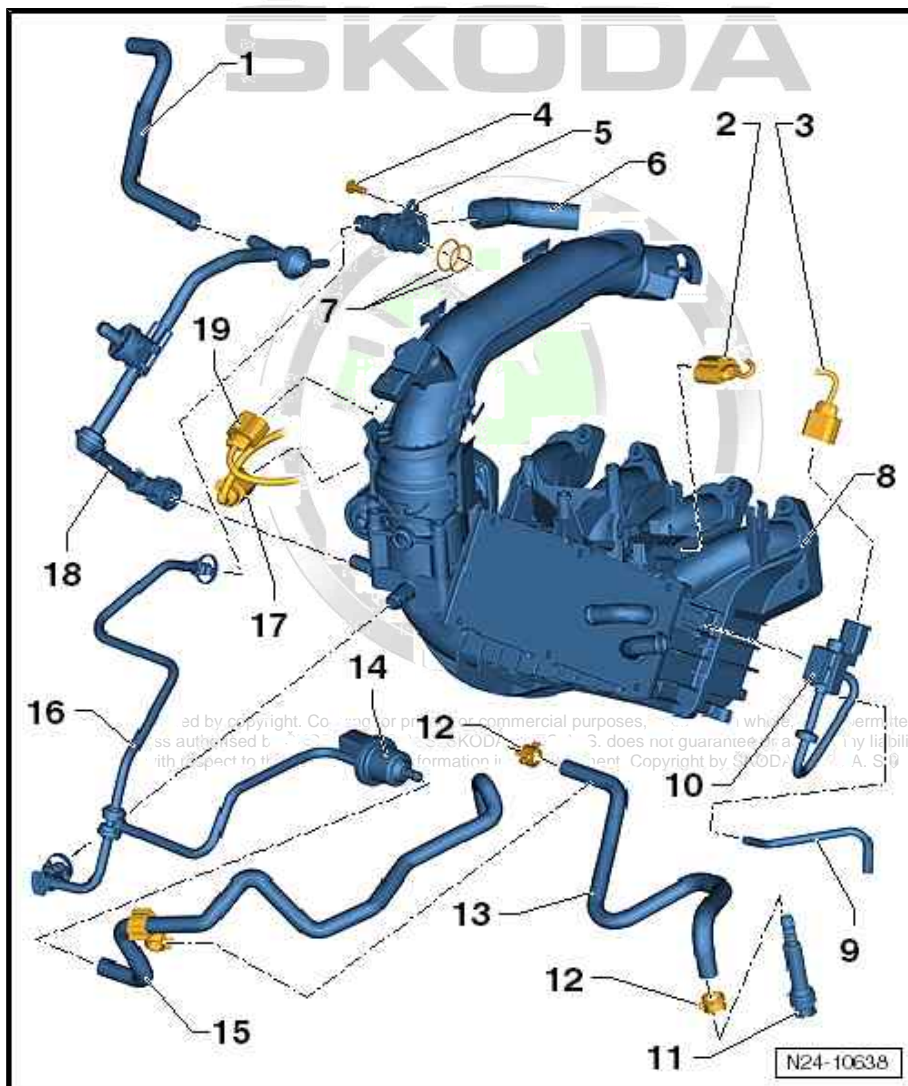
- ☐ for crankcase ventilation

6 - Connecting hose

- ☐ to exhaust gas turbo-charger

7 - O-ring

- ☐ O-ring is not available separately; in the event of damage, replace together with



-non-return valve pos. 5-

8 - Intake manifold

- ☐ Removing and installing ⇒ ["2.4 Removing and installing intake manifold", page 270](#)
- ☐ with intake manifold pressure sender - G71-



Note

- ◆ *The intake manifold pressure sender - G71- is attached to the intake manifold only using a plastic clip.*
- ◆ *If the plastic clip is damaged, attach the sender to the intake manifold with screws ⇒ Electronic Catalogue of Original Parts . Tightening torque: 3 Nm*

9 - Connecting hose

- ☐ to the coolant pump
- ☐ Only for vehicles with disconnectable coolant pump

10 - Solenoid valve for coolant circuit - N492-

- ☐ Only for vehicles with disconnectable coolant pump

11 - Connection fitting

- ☐ for fuel supply

12 - Clamp

13 - Fuel hose

- ☐ to high pressure pump

14 - activated charcoal filter solenoid valve 1 - N80-

15 - Connecting hose

- ☐ to the activated charcoal filter system

16 - Connecting hose

17 - Connector

- ☐ for throttle valve control unit - J338-

18 - Connecting hose

19 - Connector

- ☐ for charge pressure sender - G31- with intake air temperature sender 2 - G299-



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



2.1.2 Summary of components - suction pipe, part II

1 - Pressure pipe

2 - Screw

- ☐ 7 Nm

3 - Retaining clip

4 - Fuel distributor

5 - Fuel pressure sender - G247-

- ☐ Check fuel pressure sender - G247 -
⇒ ["6.1 Check fuel pressure sender G247"](#), page 287

- ☐ 22 Nm

6 - Screw

- ☐ 20 Nm

7 - Screw

- ☐ 30 Nm

8 - Nut

- ☐ Union nut
- ☐ 25 Nm

9 - Nut

- ☐ Union nut
- ☐ 25 Nm

10 - O-ring

- ☐ Replace after removal

11 - Spring element

- ☐ replace after each removal of the bottom part of intake manifold
- ☐ check for correct seating on injector

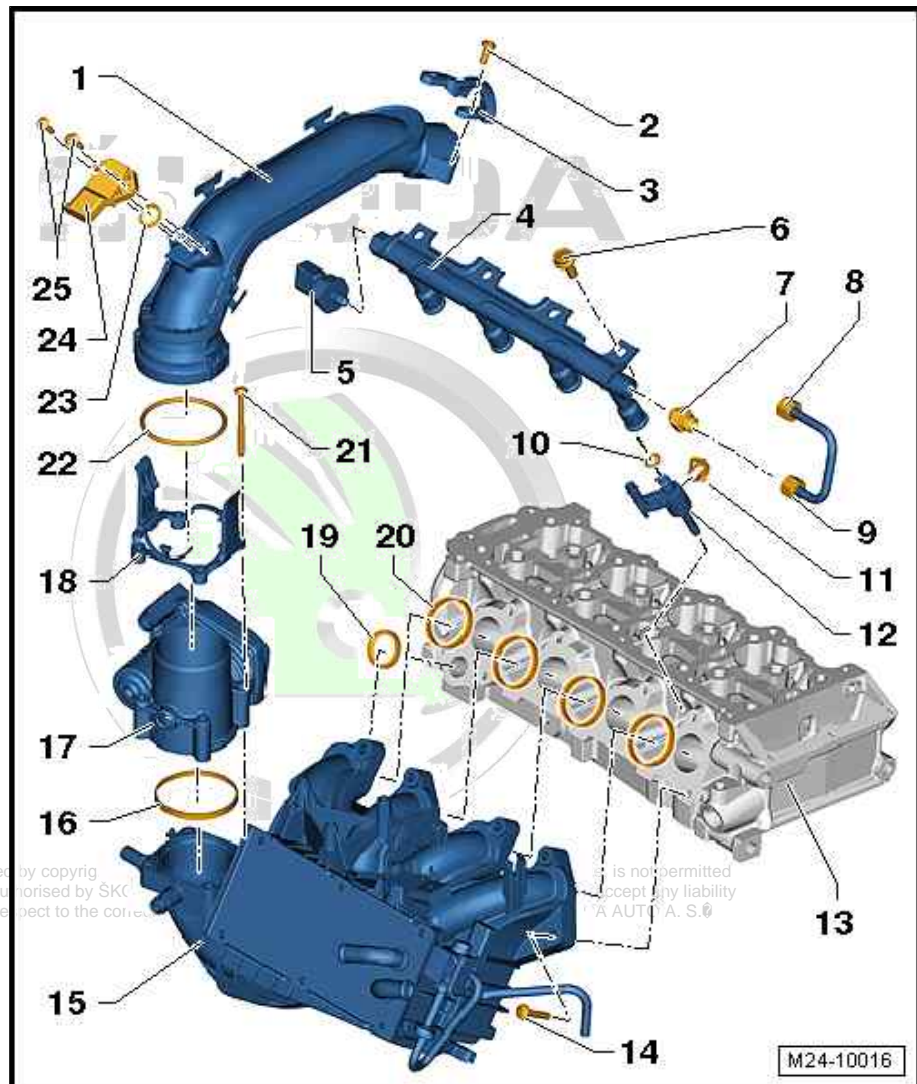
12 - Injection valves

- ◆ Injection valve for cylinder 1 - N30-
- ◆ Injection valve for cylinder 2 - N31-
- ◆ Injection valve for cylinder 3 - N32-
- ◆ Injection valve for cylinder 4 - N33-
 - ☐ with Teflon gasket ring and supporting washer
 - ☐ after removing the injection valve, the Teflon gasket ring and the supporting washer must be replaced
⇒ ["5.2 Replace Teflon gasket ring and supporting washer at injection valve"](#), page 282
 - ☐ Remove and install injection valve ⇒ ["5.1 Removing and installing injectors"](#), page 280

13 - Cylinder head

- ☐ removing and installing:

- ◆ Fabia II, Roomster, Rapid NH
⇒ ["1.3 Removing and installing cylinder head \(Fabia II, Roomster, Rapid NH\)"](#), page 76 .
- ◆ Octavia II, Yeti ⇒ ["1.4 Removing and installing cylinder head \(Octavia II, Yeti\)"](#), page 81 .



14 - Screw

- ☐ 8 Nm

15 - Intake manifold

- ☐ Removing and installing ⇒ [“2.4 Removing and installing intake manifold”, page 270](#)
- ☐ with intake manifold pressure sender - G71-



Note

- ◆ *The intake manifold pressure sender - G71- is attached to the intake manifold only using a plastic clip.*
- ◆ *If the plastic clip is damaged, attach the sender to the intake manifold with screws ⇒ Electronic Catalogue of Original Parts . Tightening torque: 3 Nm*

ŠKODA

16 - Seal

- ☐ Replace after removal

17 - Throttle valve control unit - J338-

- ☐ Removing and installing ⇒ [“2.2 Removing and installing the throttle valve control unit J338”, page 267](#)
- ☐ clean ⇒ [“2.3 Cleaning throttle valve control unit J338”, page 269](#)
- ☐ in case of replacement, erase initialisation values and adapt the engine control unit - J623- ⇒ Vehicle diagnostic tester.

18 - Adapter

19 - O-ring

- ☐ Replace after removal

20 - O-ring

- ☐ Replace after removal

21 - Screw

- ☐ 7 Nm

22 - O-ring

- ☐ Replace after removal

23 - O-ring

- ☐ Replace after removal

24 - Charge pressure encoder - G31- with intake air temperature encoder 2 - G299-

25 - Screw

- ☐ 5 Nm

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

2.2 Removing and installing the throttle valve control unit - J338-

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .

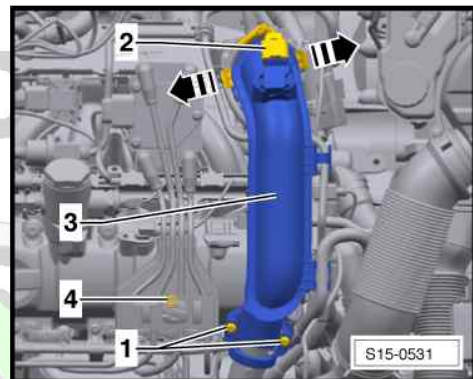
Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#) .



Removing

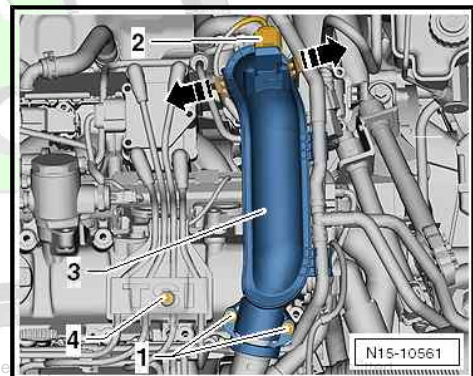
For vehicles Fabia II, Roomster, Rapid NH

- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.



For the vehicles Octavia II, Yeti

- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.



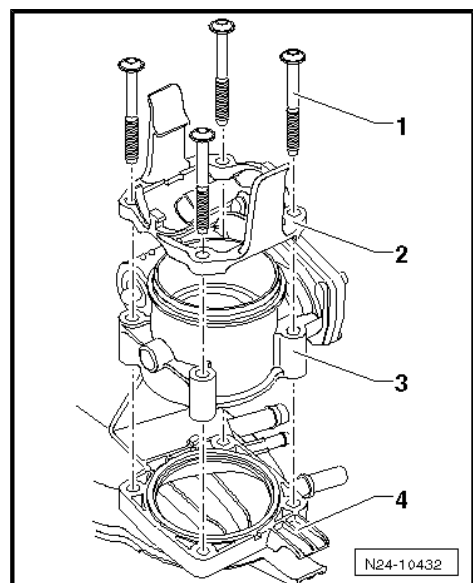
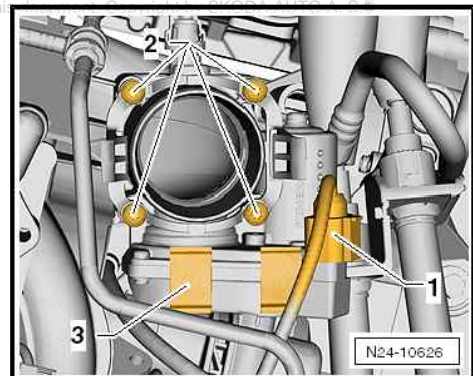
Protected by copyright. Copying for private or commercial use without the written permission of ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this manual.

Continued for all vehicles

- Disconnect the plug -1- from the throttle valve control unit - J338 - .
- Release the fixing screws -2- and remove the throttle valve control unit - J338- from the intake manifold.

Installing

- Insert a new gasket ring in the groove of the intake manifold.
- Position the throttle valve control unit -3- together with the adapter -2- and the fixing screws -1- onto the intake manifold -4-.

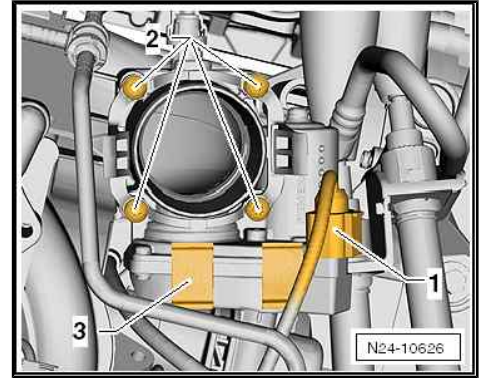


- Tighten fixing screws -2-.
- Fit the plug -1- at the throttle valve control unit -3-.



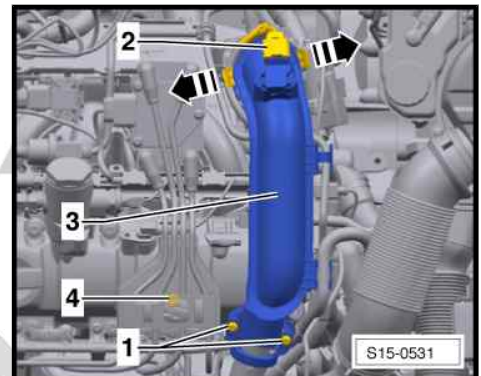
Note

Before fitting the O-rings at the exhaust turbocharger and in the pressure pipe moisten slightly with engine oil.



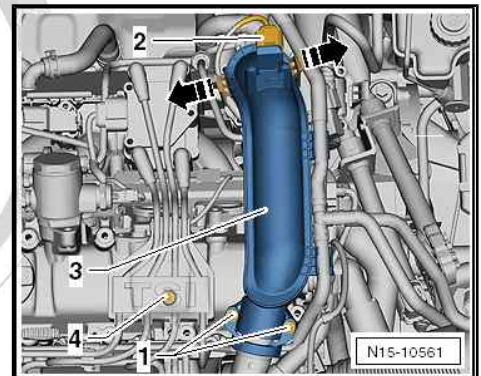
For vehicles Fabia II, Roomster, Rapid NH

- Fit the pressure pipe -3- at the turbocharger.
- Press the pressure pipe -3- onto the throttle valve control unit.
- During this procedure the retaining clips must click audibly into place.
- Tighten screws -1- of the retaining clip.
- Connect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299 - .



For the vehicles Octavia II, Yeti

- Fit the pressure pipe -3- at the turbocharger.
- Press the pressure pipe -3- onto the throttle valve control unit.
- During this procedure the retaining clips must click audibly into place.
- Tighten screws -1- of the retaining clip.
- Connect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299 - .



Continued for all vehicles

If a new throttle valve control unit was installed:

- Erase initialisation values and adapt the engine control unit - J623- to the throttle valve control unit ⇒ Vehicle diagnostic tester.

Tightening torques

- ♦ Screws of the throttle valve control unit - J338-
⇒ ["2.1 Assembly overview - intake manifold", page 263](#) .
- ♦ Screws for pressure pipe clamps
⇒ ["2.1 Assembly overview - intake manifold", page 263](#) .

2.3 Cleaning throttle valve control unit - J338-

Safety precautions when working on the fuel supply system
⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ ["3.1 Rules of cleanliness", page 7](#) .



Note

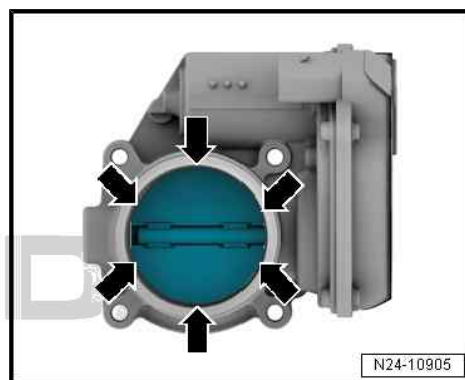
- ♦ *If a new engine control unit - J623- is installed, the throttle valve control unit must be adjusted. The adaptation must only be carried out with a new or cleaned throttle valve control unit, because dirt/carbon deposits in the end stop of the throttle valve can lead to incorrect adaptation values.*
- ♦ *When cleaning the throttle valve housing it must not be scratched.*
- Remove throttle valve control unit
⇒ ["2.2 Removing and installing the throttle valve control unit J338", page 267](#) .
- Open throttle valve by hand and lock in open position using a suitable object (e.g. wood or plastic wedge) -arrow-.



WARNING

Acetone is highly inflammable. Observe accident prevention regulations and safety notes when handling highly inflammable fluids. Do not use compressed air when cleaning throttle valve. Wear safety goggles and safety clothing, in order to avoid injuries and skin contact with fuel.

- Thoroughly clean the throttle valve support, in particular the area of the closed throttle valve -arrows-, with commercially available acetone and a paint brush.
- Wipe the throttle valve housing with a fluffy cloth.
- Let the acetone dry off completely and re-install the cleaned throttle valve control unit.
- Erase initialisation values and adapt the engine control unit - J623- to the throttle valve control unit ⇒ Vehicle diagnostic tester.



2.4 Removing and installing intake manifold

Special tools and workshop equipment required

- ♦ Pliers for spring-type clips
- ♦ Hose clamps up to Ø 25 mm - MP7-602 (3094)-

Removing

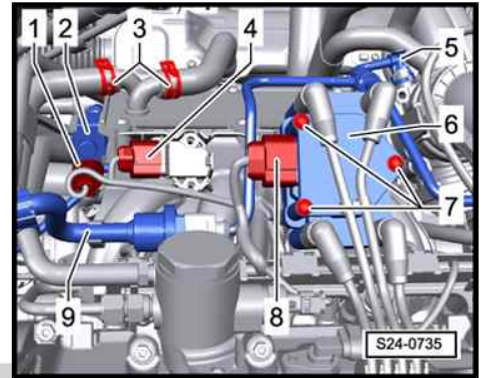
Safety precautions when working on the fuel supply system
⇒ ["2.2 Safety precautions when working on fuel supply system", page 3](#) .

Observe cleanliness requirements when working on the fuel system
⇒ ["3.1 Rules of cleanliness", page 7](#) .

- Switch off ignition and all electrical loads, and pull out ignition key.
- Remove top cover for ignition leads, if present.
- Remove throttle valve control unit
⇒ ["2.2 Removing and installing the throttle valve control unit J338", page 267](#) .

Copyright by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S. ©

- Disconnect the connecting hose -9- and the plug from the activated charcoal filter system solenoid valve 1 - N80- and remove the valve from the intake manifold.
- Disconnect plug connections -1- and -4-.
- Release the fixing screws -7- and carefully place the ignition transformer - N152- -6- onto the cylinder head cover.
- Detach connecting hose -5- from intake manifold.
- Disconnect the vacuum line of the solenoid valve for coolant circuit - N492- -2- from the coolant pump.
- Pinch off coolant hoses for charge-air cooler with hose clamps - MP7-602 (3094)- .
- Slacken the clamps -3- and detach the coolant hoses from the charge-air cooler.
- Slacken the fixing screws -arrows- crosswise and carefully remove the intake manifold upwards.



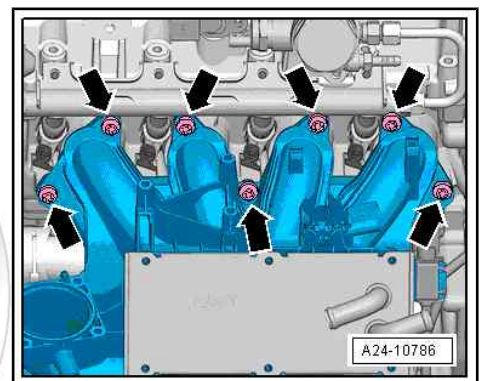
Note

Pour the residual coolant out of the charge air cooler into a collecting tank.

Installing

Installation is carried out in the reverse order.

- ◆ Fabia II, Roomster, Rapid NH
⇒ [“2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH”, page 254](#) .
- ◆ Octavia II, Yeti:
⇒ [“2.2 Summary of components - charge-air system, Octavia II, Yeti”, page 255](#) .
- Check, top up and bleed cooling system
⇒ [“1.3 Draining and filling coolant”, page 142](#) .



Tightening torques

- ◆ Screws for the intake manifold
⇒ [“2.1 Assembly overview - intake manifold”, page 263](#)
- ◆ Screws for charge air cooler (Fabia II, Roomster, Rapid NH)
⇒ [“2.1 Summary of components - charge-air system, Fabia II, Roomster, Rapid NH”, page 254](#) .
- ◆ Screws for charge air cooler (Octavia II, Yeti)
⇒ [“2.2 Summary of components - charge-air system, Octavia II, Yeti”, page 255](#) .

3 Air filter

⇒ ["3.1 Summary of components - air filter, Fabia II, Roomster, Rapid NH", page 272](#)

⇒ ["3.2 Summary of components - air filter, Octavia II, Yeti", page 273](#)

⇒ ["3.3 Removing and installing air filter \(Fabia II, Roomster, Rapid NH\)", page 273](#)

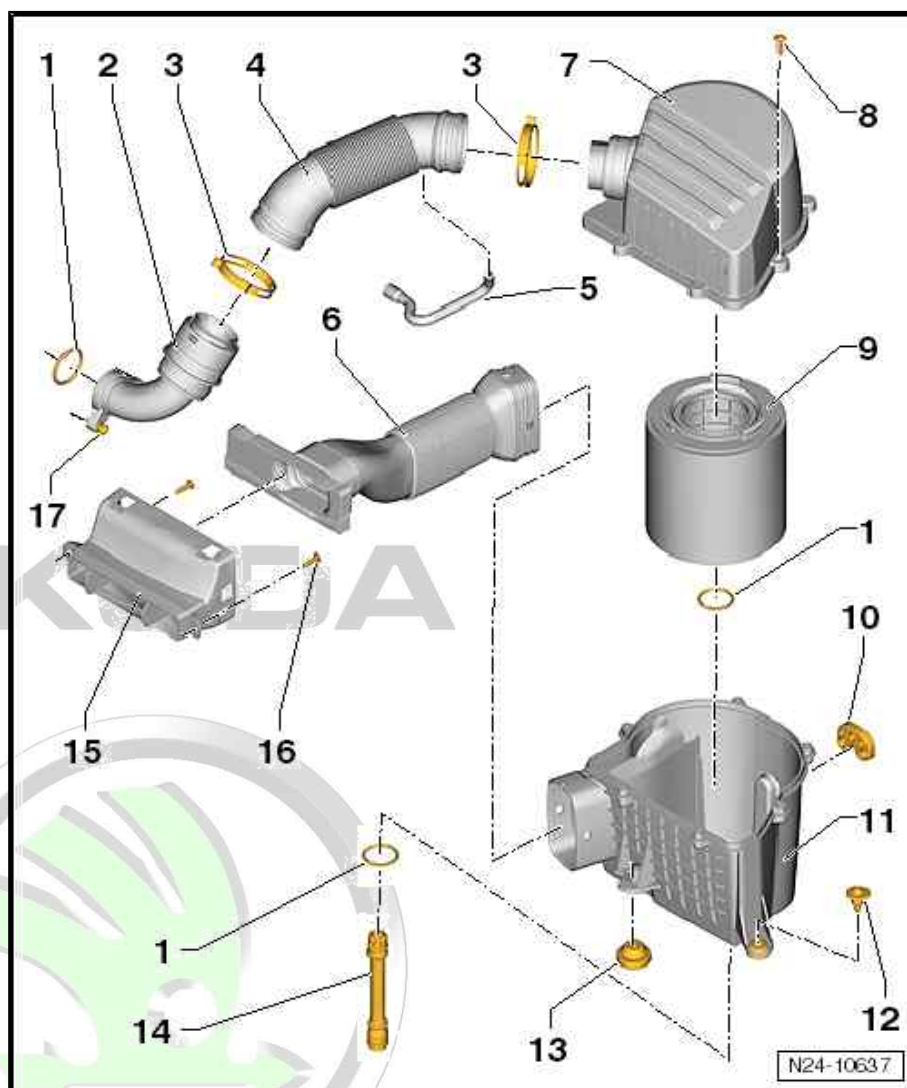
⇒ ["3.4 Removing and installing air filter \(Octavia II, Yeti\)", page 275](#)

3.1 Summary of components - air filter, Fabia II, Roomster, Rapid NH

Removing and installing air filter

⇒ ["3.3 Removing and installing air filter \(Fabia II, Roomster, Rapid NH\)", page 273](#) .

- 1 - O-ring
 - ☐ replace if damaged
- 2 - Inlet connection
- 3 - Spring clip
 - ☐ use hose binding claw , e.g. -VAS 6340- for removing and installing
- 4 - intake hose
- 5 - Vacuum hose
 - ☐ replace if damaged
 - ☐ to cylinder head cover
- 6 - Intake hose with support
- 7 - Air filter top part
- 8 - Screw
 - ☐ 2 Nm
- 9 - Filter element
- 10 - Rubber bearing
- 11 - Air filter bottom part
 - ☐ Removing and installing
⇒ ["3.3 Removing and installing air filter \(Fabia II, Roomster, Rapid NH\)", page 273](#)
- 12 - Screw
 - ☐ 8 Nm
- 13 - Rubber bearing
- 14 - Water drain hose
- 15 - Intake air duct
- 16 - Screw
 - ☐ 3 Nm



17 - Screw

- ☐ 10 Nm

3.2 Summary of components - air filter, Octavia II, Yeti

Removing and installing air filter

⇒ ["3.4 Removing and installing air filter \(Octavia II, Yeti\)"](#),
[page 275](#) .

1 - Air filter top part

2 - Screw

- ☐ 2 Nm

3 - Screw

- ☐ 2 Nm

4 - Mounting bracket

5 - Filter element

6 - Rubber-metal bearing

- ☐ with captive screw
- ☐ 8 Nm

7 - Seals

- ☐ replace if damaged

8 - Air filter bottom part

- ☐ Removing and installing
⇒ ["3.4 Removing and installing air filter \(Octavia II, Yeti\)"](#), [page 275](#)

9 - Rubber bearing

10 - Inlet connection

- ☐ with cover

11 - Screw

- ☐ 2 Nm

12 - Intake air duct

13 - Screw

- ☐ 2 Nm

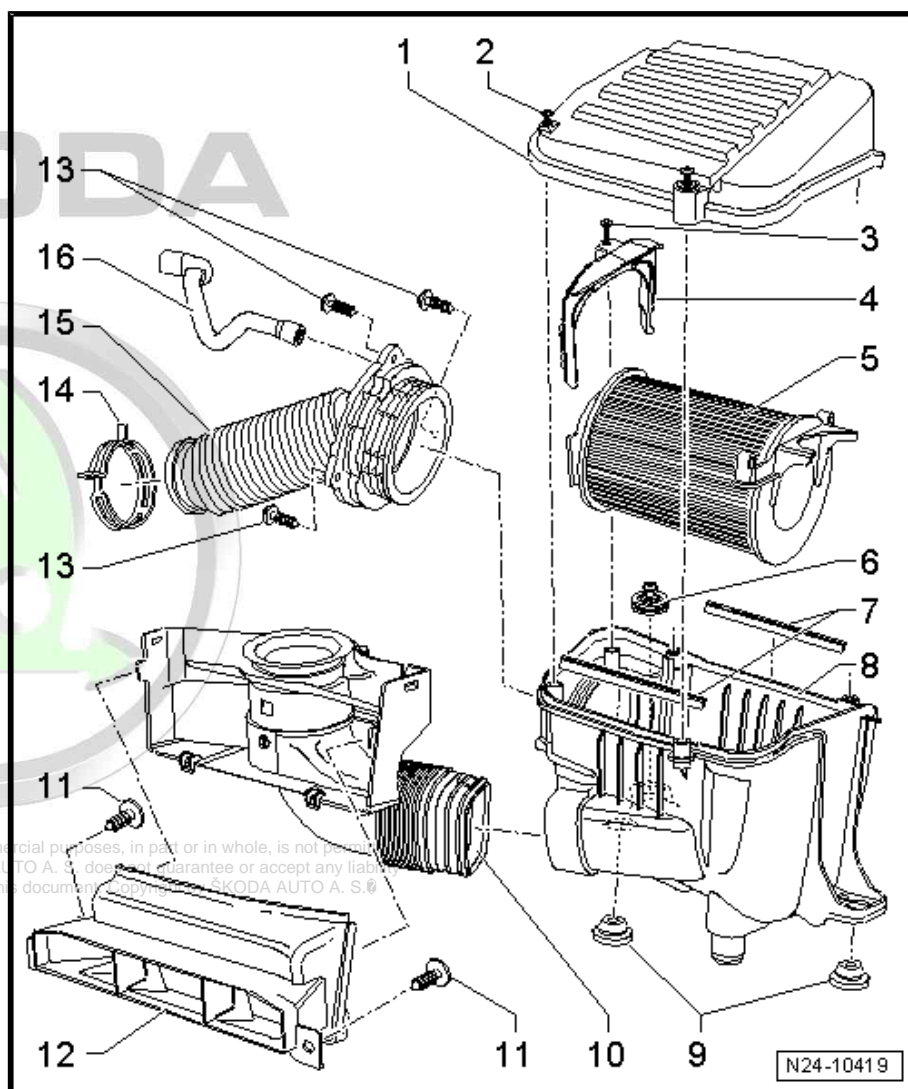
14 - Spring clip

- ☐ use hose binding claw ,
e.g. -VAS 6340- for re-
moving and installing

15 - intake hose

16 - Vacuum hose

- ☐ replace if damaged
- ☐ to cylinder head cover



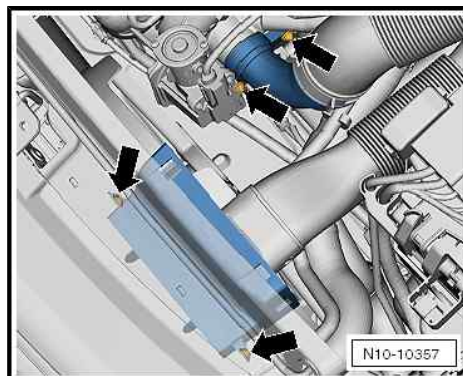
3.3 Removing and installing air filter (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Pliers for spring-type clips

Removing

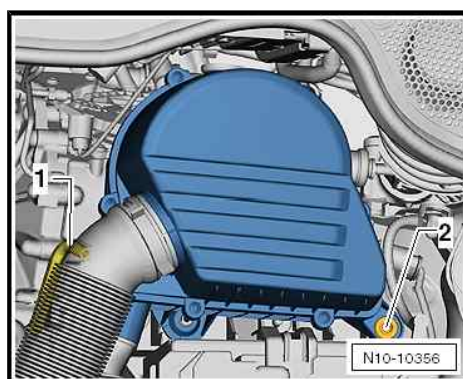
- Remove battery ⇒ Electrical System; Rep. gr. 27 .
- Unscrew the fixing screws -arrows- of the intake air duct and the inlet connection at the exhaust gas turbocharger.



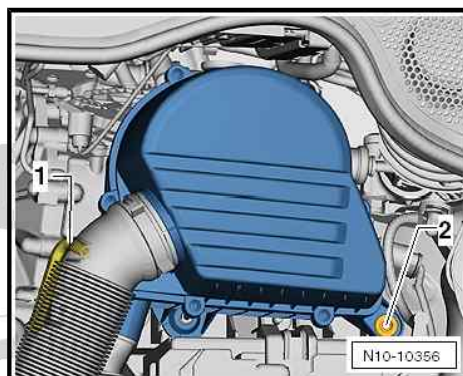
- Disconnect vacuum hose -1- from intake hose.
- Release the fixing screw -2- and pull the air filter housing towards the top from the bearing bolts.

Installing

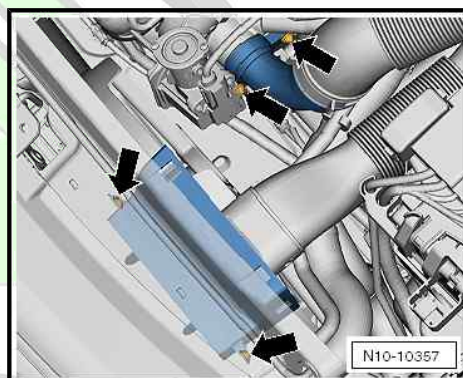
- Press the air filter housing from the top onto the bearing bolts.



- Tighten fixing screw -2- to 8 Nm.
- Connect vacuum hose -1- to intake hose.



- Tighten the fixing screws -arrows- of the intake air duct and the inlet connection at the exhaust gas turbocharger.
- Install battery ⇒ Electrical System; Rep. gr. 27 .



Tightening torques

- ♦ Screws for inlet connection at exhaust gas turbocharger
⇒ [“3.1 Summary of components - air filter, Fabia II, Roomster, Rapid NH”, page 272](#) .
- ♦ Screws for intake air duct
⇒ [“3.1 Summary of components - air filter, Fabia II, Roomster, Rapid NH”, page 272](#) .
- ♦ Screw for lower section of the air filter housing
⇒ [“3.1 Summary of components - air filter, Fabia II, Roomster, Rapid NH”, page 272](#) .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

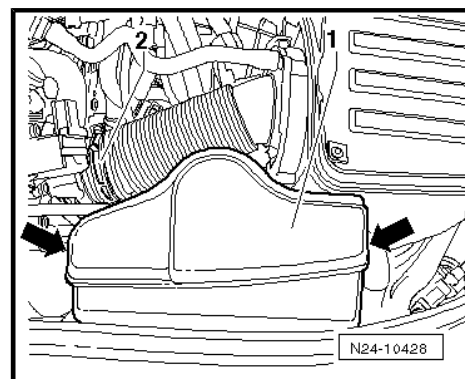
3.4 Removing and installing air filter (Octavia II, Yeti)

Special tools and workshop equipment required

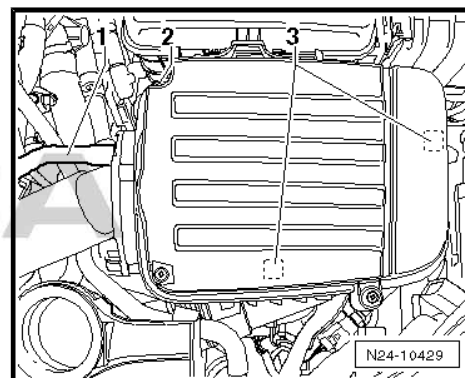
- ◆ Pliers for spring-type clips

Removing

- Press the catches -arrows- and take the cover -1- from the inlet connection.
- Pull the inlet connection out of the intake air duct.
- Remove the spring strap clamp -2- with the intake hose from the exhaust gas turbocharger.



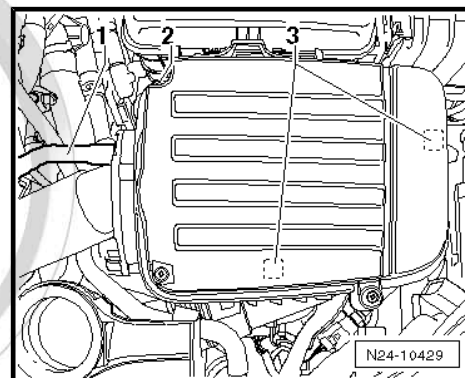
- Detach vacuum hose -1- from air filter housing.
- Unscrew the fixing screw -2- and pull the air filter housing towards the top from the bearing bolts -3-.



Installing

Installation is carried out in the reverse order. When installing, observe the following:

- Press the air filter housing from the top onto the bearing bolts -3-.
- Tighten fixing screws -2-.
- Fit the vacuum hose -1- at the connection fitting of the air filter housing.



Tightening torques

- ◆ Rubber-metal bearing with captive screw
⇒ [“3.2 Summary of components - air filter, Octavia II, Yeti”, page 273](#) .



4 High pressure pump

⇒ [“4.1 Summary of components - high pressure pump”, page 276](#)

⇒ [“4.2 Removing and installing the high pressure pump”, page 277](#)

4.1 Summary of components - high pressure pump



WARNING

The injection system consists of a high pressure part (max. pressure of 12 MPa = 120 bar) and a low pressure part (pressure of approx. 0.6 MPa = 6 bar).

Before opening the high pressure system, e.g. removing the high pressure pump, the fuel distributor, the injection valves, the fuel pipes or the fuel pressure sender - G247- , the fuel pressure in the high pressure system with a remaining pressure of approx. 0.6 MPa (6 bar) must be reduced. The procedure for this is described in the chapter “Relieving pressure in the high pressure system”
⇒ [“2.3 Reducing pressure in the high pressure system”, page 4](#).



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

1 - Screw

- ☐ 20 Nm

2 - Fuel hose

- ☐ Low pressure
- ☐ with spring strap clamp

3 - Spring clip

4 - Nut

- ☐ Union nut
- ☐ Counterhold the connection fitting on the high pressure pump for loosening
- ☐ 25 Nm

5 - Nut

- ☐ Union nut
- ☐ Counterhold the connection fitting on the high pressure pump for loosening
- ☐ 25 Nm

6 - High pressure pump with fuel pressure regulating valve - N276-

- ☐ Removing and installing
⇒ [“4.2 Removing and installing the high pressure pump”, page 277](#)

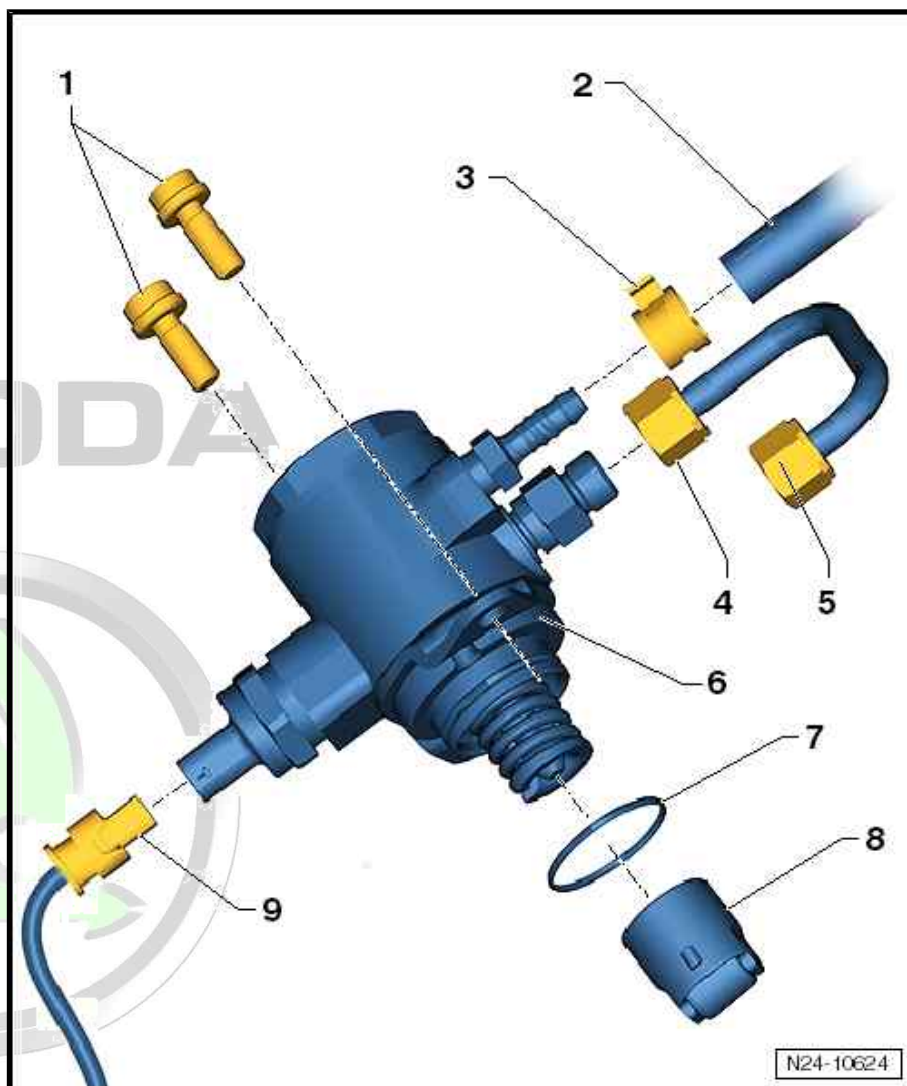
7 - O-ring

- ☐ Replace after removal
- ☐ before fitting moisten lightly with clean engine oil

8 - Roller tappet

- ☐ before fitting moisten lightly with clean engine oil

9 - Connector



Protected by copyright. Copying for private or commercial purposes in part or in whole is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

4.2 Removing and installing the high pressure pump

Special tools and workshop equipment required

- ◆ Pliers for spring-type clips

Condition

- The engine must be cold.

Removing

Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#).

Observe cleanliness requirements when working on the fuel system
⇒ [“3.1 Rules of cleanliness”, page 7](#).

- Switch off ignition and all electrical loads, and pull out ignition key.



WARNING

The injection system consists of a high pressure part (max. pressure of 12 MPa = 120 bar) and a low pressure part (pressure of approx. 0.6 MPa = 6 bar).

*Before opening the high pressure system, e.g. removing the high pressure pump, the fuel distributor, the injection valves, the fuel pipes or the fuel pressure sender - G247- , the fuel pressure in the high pressure system with a remaining pressure of approx. 0.6 MPa (6 bar) must be reduced. The procedure for this is described in the chapter "Relieving pressure in the high pressure system" ⇒ **"2.3 Reducing pressure in the high pressure system", page 4**.*

- Remove top cover for ignition leads, if present.
- Disconnect the plug -1- and the fuel feed line -2- from the high pressure pump.



Note

Collect the fuel which flows out with a cleaning cloth.

- Slacken the union nuts -3- at the high pressure line.



Note

Hold the screwed connections at the high pressure pump and at the fuel distributor when loosening the union nuts with a wrench.

- Uniformly release the fixing screws -4- and remove the high pressure pump with roller tappet from the cylinder head cover.

Installing

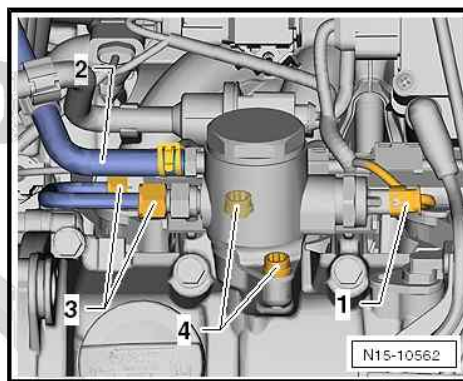


Note

- ♦ *Moisten the roller tappet of the high pressure pump with clean engine oil.*

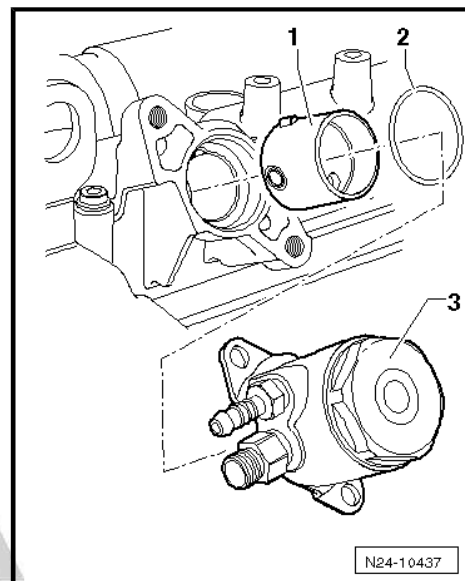
- ♦ *Always replace the O-ring of the high pressure pump.*

- Slide the roller tappet -1- into the camshaft housing.



Commercial purposes, in part or in whole, is not permitted unless authorized by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

- Insert a new, oiled O-ring -2- into the slot of the high pressure pump -3-.
- Position the high pressure pump -3- on the cylinder head cover.



- First of all screw in the fixing screws -4- sufficiently until the bolt heads are positioned on the flange.
- Then uniformly tighten the fixing screws -4-.
- Screw on the union nuts of the high pressure line -3- by hand.

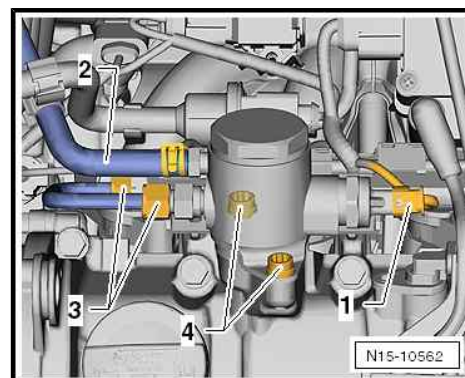


Note

Hold the screwed connections at the high pressure pump and at the bottom part of intake manifold/fuel distributor when tightening the union nuts with a wrench.

- Tighten the union nuts -3- on the high pressure line.
- Attach the fuel feed line -2- and the plug -1- on the high pressure pump.

Further installation occurs in reverse order.



Tightening torques

- ◆ Fixing screws for the high pressure pump
⇒ ["4.1 Summary of components - high pressure pump", page 276](#).
- ◆ Union nuts of the high pressure line
⇒ ["4.1 Summary of components - high pressure pump", page 276](#).



5 Injection valves

⇒ ["5.1 Removing and installing injectors", page 280](#)

⇒ ["5.2 Replace Teflon gasket ring and supporting washer at injection valve", page 282](#)

⇒ ["5.3 Clean injectors", page 285](#)

5.1 Removing and installing injectors

Observe the safety instructions before starting fitting work

⇒ ["2 Safety instructions", page 3](#) .



Note

The Teflon gasket ring on the injection valve must be replaced each time after removing the injection valve

⇒ ["5.2 Replace Teflon gasket ring and supporting washer at injection valve", page 282](#) .

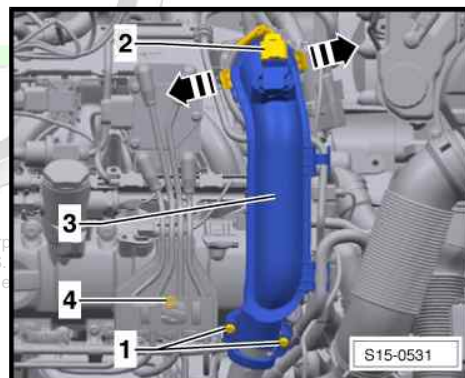
Special tools and workshop equipment required

- ◆ Set of tools - T10133-

Removing

For vehicles Fabia II, Roomster, Rapid NH

- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.

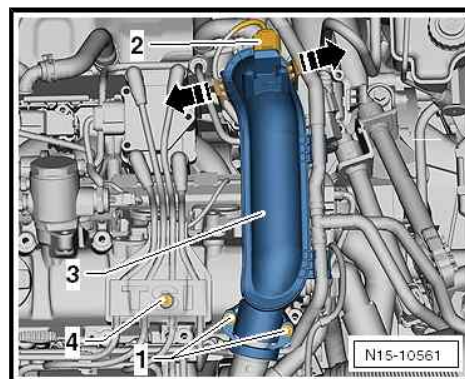


For the vehicles Octavia II, Yeti

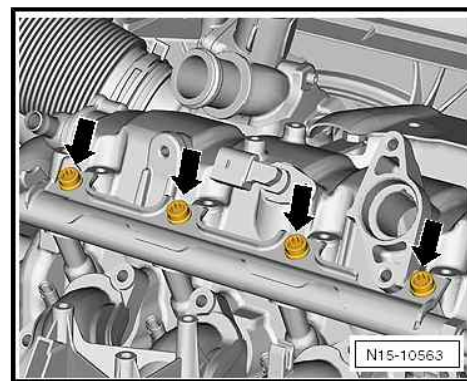
- Release screws -1- and remove retaining clip.
- Disconnect plug -2- at charge pressure sender - G31- with intake air temperature sender 2 - G299- .
- Release the catches in -direction of arrow- and detach the pressure pipe -3- first of all from the throttle valve control unit - J338 - and then from the exhaust gas turbocharger.

Continued for all vehicles

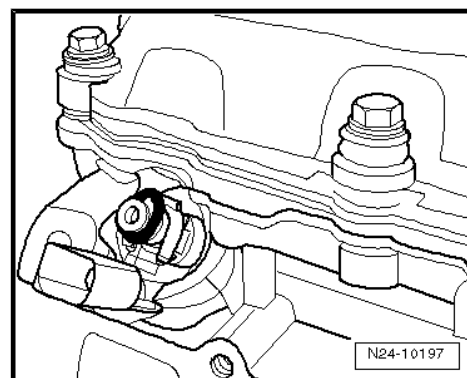
- Remove high pressure pump
⇒ ["4.2 Removing and installing the high pressure pump", page 277](#) .



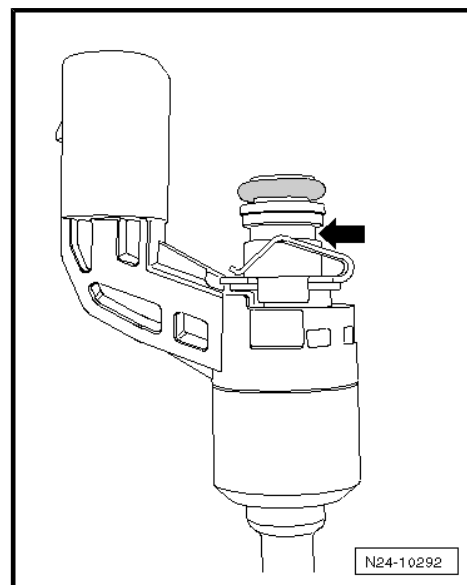
- Release the fixing screws -arrows- and carefully remove the fuel distributor from the injection valves.



- Press the O-ring upwards by hand as shown and remove it from the injection valve.
- Screw striking hammer - T10133/3- with extractor - T10133/15- .

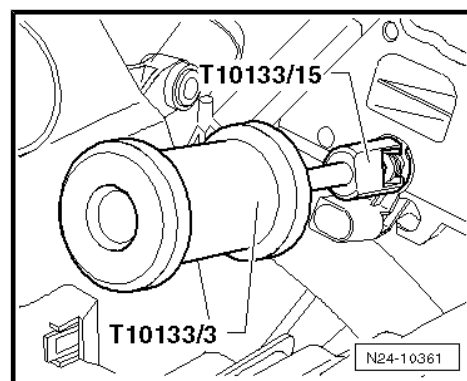


- Then insert the extractor - T10133/15- into the groove -arrow- on the injection valve.



ŠKODA

- Pull out the injection valve with careful knocks.





Installing

- Thoroughly clean the holes for the injection valves in the cylinder head with the nylon brush - T10133/4- .
- Check the supporting washer made of plastic for damage, replace if necessary
⇒ [“5.2 Replace Teflon gasket ring and supporting washer at injection valve”, page 282](#) .
- Replace the spring element -arrow- as well as the Teflon gasket ring each time after removing the injection valves
⇒ [“5.2 Replace Teflon gasket ring and supporting washer at injection valve”, page 282](#) .
- Replace O-rings between injection valve and bottom part of the intake manifold and moisten lightly with clean engine oil.



Note

- ◆ The Teflon seal of the injector must not be oiled or greased.
- ◆ The injection valve must insert easily, if necessary wait until the gasket ring has been drawn together sufficiently.
- Press the injection valve -1- by hand up to the stop into the hole of the cylinder head. The injection valve should be pressed evenly into the countersink -2- on the cylinder head.



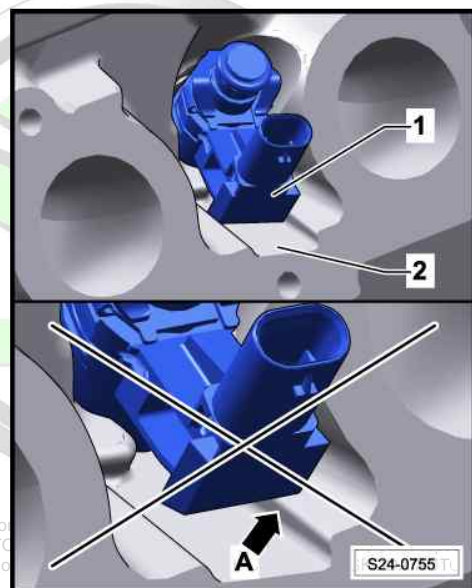
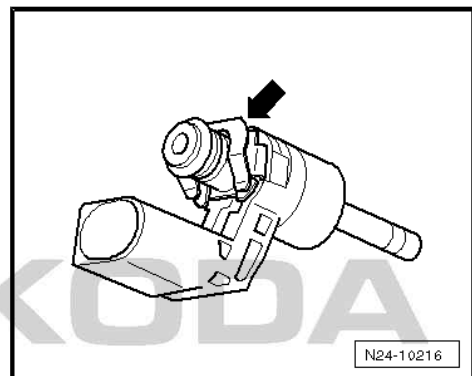
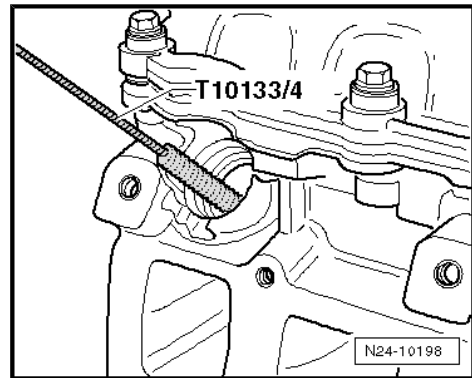
Note

- ◆ The injection valve must never rest against the countersink edge on the cylinder head arrow -A-, but it must always be pressed evenly into the countersink -2- on the cylinder head.
- ◆ After installing, carry out a visual inspection of the fitting location of the injection valve.

Further installation occurs in reverse order.

Tightening torques

- ◆ Screws for pressure pipe clamps
⇒ [“2.1 Assembly overview - intake manifold”, page 263](#) .
- ◆ Screws for fuel distributor
⇒ [“2.1 Assembly overview - intake manifold”, page 263](#) .



5.2 Replace Teflon gasket ring and supporting washer at injection valve



Note

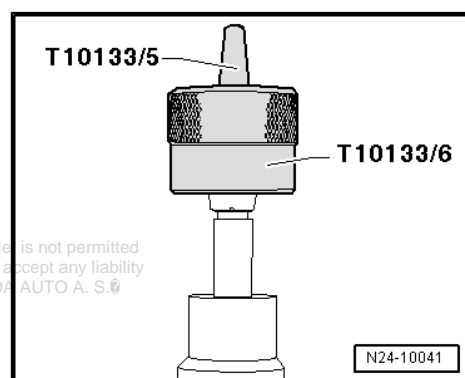
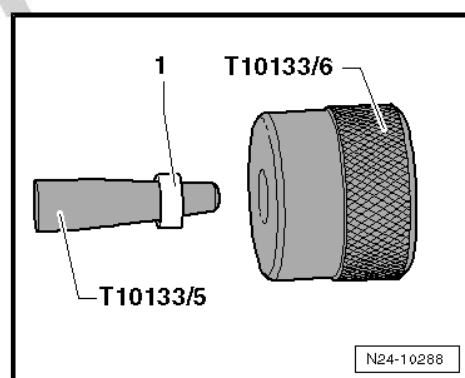
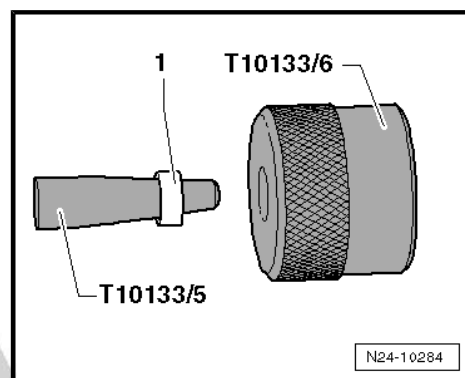
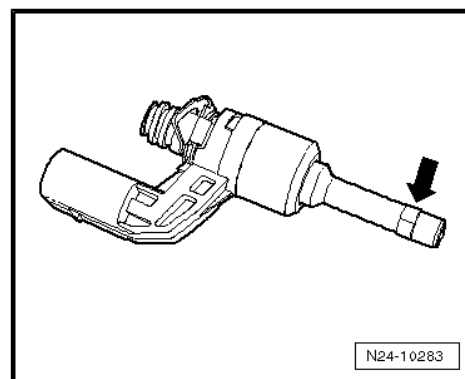
- ◆ Safety precautions when working on the fuel supply system
⇒ [“2.2 Safety precautions when working on fuel supply system”, page 3](#) .
- ◆ Observe cleanliness requirements when working on the fuel system ⇒ [“3.1 Rules of cleanliness”, page 7](#) .

Special tools and workshop equipment required

- ◆ Set of tools - T10133-

Replace Teflon gasket ring

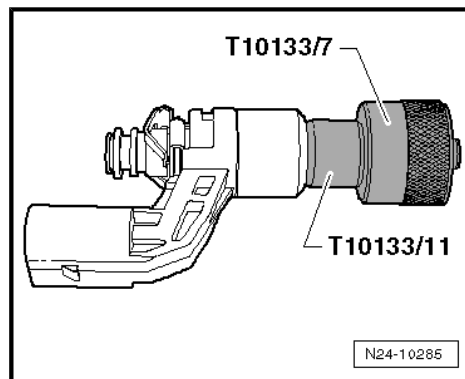
- Remove injectors
⇒ ["5.1 Removing and installing injectors", page 280](#) .
 - Carefully clean the injection valve.
 - Carefully cut open the gasket ring with a knife as shown -arrow-. Absolutely try to avoid the contact of the knife blade with the valve body.
 - Remove the old gasket ring and clean the gasket ring nut in the area of the gasket ring -arrow-. Remove the existing deposits (carbon deposits) with a wire brush.
 - Fit a new gasket ring -1- onto the assembly cone - T10133/5- . Slightly push the gasket ring with the assembly sleeve - T10133/6- (knurling points to the gasket ring -1-) as far as possible onto the assembly cone - T10133/5 - .
 - Turn the assembly sleeve - T10133/6 - around (now the knurling points away from the gasket ring), and push the gasket ring -1- up to the end onto the assembly cone - T10133/5 - .
 - Now position the assembly cone - T10133/5- with the gasket ring from the front onto the injection valve. Push the gasket ring with the assembly sleeve - T10133/6- further onto the injection valve.
- The gasket ring is not yet seated in its groove.
- Remove the assembly sleeve - T10133/6 - and the assembly cone - T10133/5- .
 - Push the gasket ring by hand into the annular groove.
 - Fit the spacer sleeve - T10133/11 - onto the valve body.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

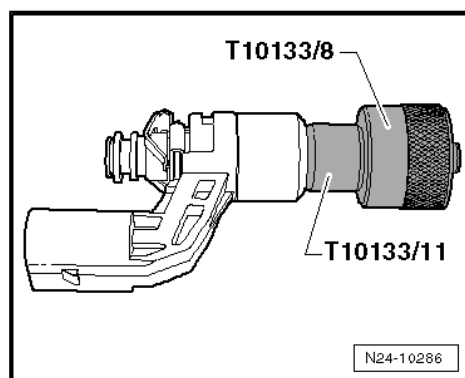


- Now press the calibration sleeve - T10133/7 - via the gasket ring up to the stop at the spacer sleeve - T10133/11- .
- Pull off again the calibration sleeve - T10133/7- .



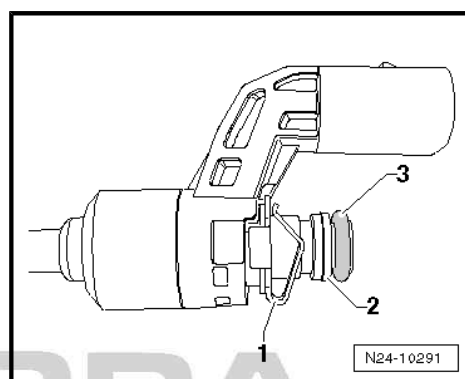
- Now press the calibration sleeve - T10133/8- via the gasket ring up to the stop at the spacer sleeve - T10133/11- .
- Pull off again the calibration sleeve - T10133/8- .

Now the Teflon gasket ring has its correct fitting dimension.

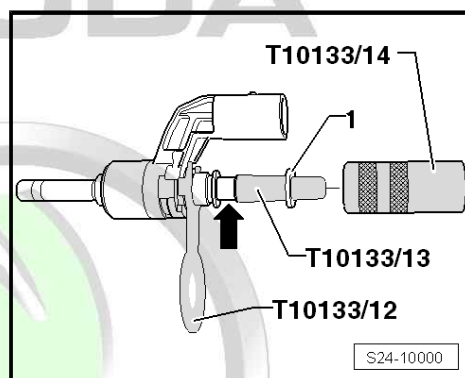


Replace supporting washer

- Remove O-ring -3-.
- Cut open the supporting washer -2- with a small side cutter and take it off.
- Pull off the spring element at the injection valve -1- and instead push on the lock washer - T10133/12 - .

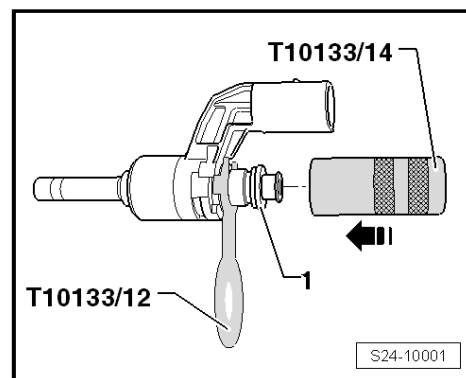


- Mount a new supporting washer -1- on the assembly cone - T10133/13- and fit it onto the injection valve as shown.
- Push the supporting washer -1- with the calibration sleeve - T10133/14- (knurled side points to the injection valve) up to the first nut -arrow- onto the injection valve.

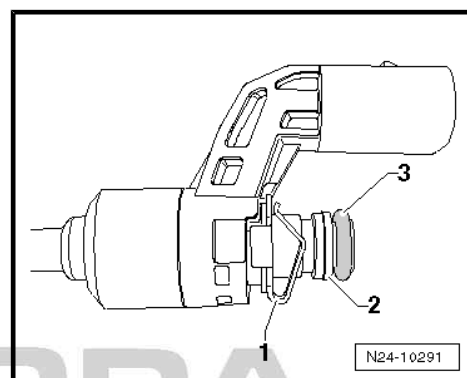


- Now turn the calibration sleeve - T10133/14- around (knurled side points away from the injection valve). Push the calibration sleeve via the supporting washer -1- in -direction of arrow- up to the stop on the lock washer - T10133/12- .
- Pull off again the calibration sleeve - T10133/14- .

Now the supporting washer has its correct fitting dimension.



- Now fit a new spring element -1- for the lock washer - T10133/12 - and push a new O-ring -3- in front of the support washer -2-.

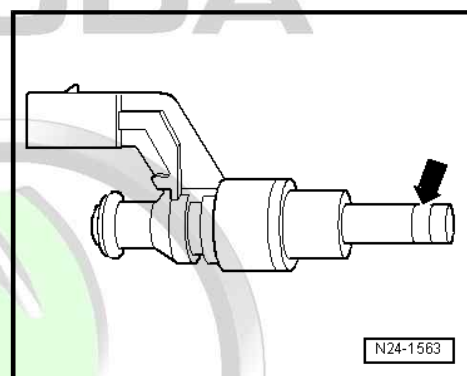


Note

The Teflon gasket ring -arrow- must not be oiled when installing the injection valve.

- Install injection valves
⇒ ["5.1 Removing and installing injectors", page 280](#) .

Further installation occurs in reverse order.



5.3 Clean injectors

Special tools and workshop equipment required

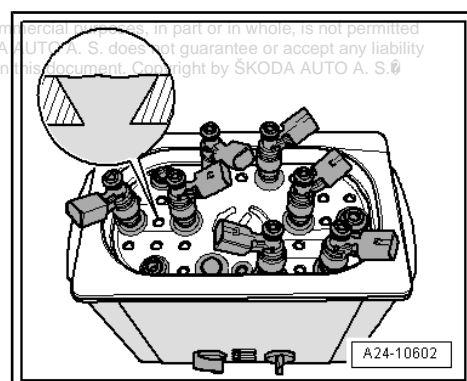
- ◆ Ultrasonic cleaning device - VAS 6418-
- ◆ Feeder plate for injection units - VAS 6418/1-
- ◆ Cleaning fluid ⇒ ETKA - Electronic Catalogue of Original Parts



Note

- ◆ *The ultrasound device must be filled with cleaning agent up to the top of the holes (see inset).*
- ◆ *Observe the safety and Owner's Manual of the ultrasound device.*

- Remove injectors
⇒ ["5.1 Removing and installing injectors", page 280](#) .
- Fill ultrasound device with cleaning fluid.



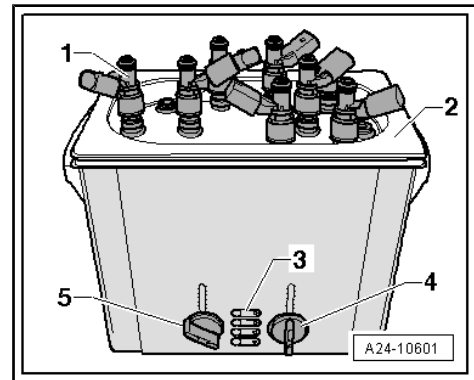


- Push injectors -1- into the feeder plate for injection units - VAS 6418/1- -2-.
- Dip the FSI injection units with feeder plate for injection units - VAS 6418/1- into the cleaning fluid.
- On the rotating head -4-, set a temperature of 50 °C.
- On the rotating head -5-, set a cleaning time of 30 minutes.
- Switch on ultrasound device using the button -3-.



Note

Once the cleaning temperature is 50 °C the set time begins to elapse.



- After cleaning the injection valves, always replace the respective combustion chamber seal (Teflon seal)
⇒ [“5.2 Replace Teflon gasket ring and supporting washer at injection valve”, page 282](#) .
- Install injection valves
⇒ [“5.1 Removing and installing injectors”, page 280](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

6 Senders and sensors

⇒ **"6.1 Check fuel pressure sender G247", page 287**

6.1 Check fuel pressure sender - G247-

Special tools and workshop equipment required

- ◆ Assembly tool - T10118-
- ◆ Open ring spanner with 3/8" drive, SW 27 mm
- ◆ Pressure sensor tester , e.g. -VAS 6394- (contains pressure manometer - VAS 6394/1-)
- ◆ Adapter , e.g. -VAS 6394/3-
- ◆ Test adapter , e.g. -VAS 5570-



WARNING

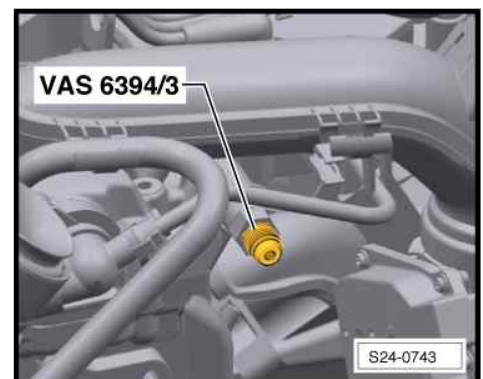
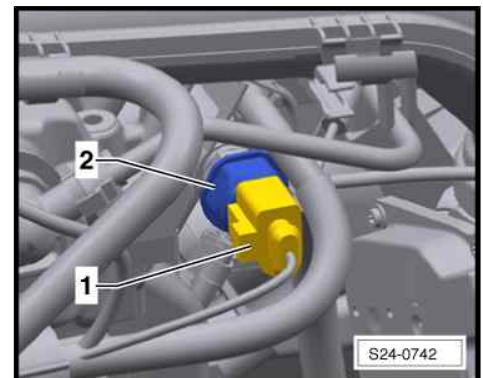
The injection system consists of a high pressure part (max. pressure of 12 MPa = 120 bar) and a low pressure part (pressure of approx. 0.6 MPa = 6 bar).

*Before opening the high pressure system, e.g. removing the high pressure pump, the fuel distributor, the injection valves, the fuel pipes or the fuel pressure sender - G247-, the fuel pressure in the high pressure system with a remaining pressure of approx. 0.6 MPa (6 bar) must be reduced. The procedure for this is described in the chapter "Relieving pressure in the high pressure system" ⇒ **"2.3 Reducing pressure in the high pressure system", page 4**.*

For vehicles Fabia II, Roomster, Rapid NH

- Disconnect plug -1- and remove fuel pressure sender - G247-2-.
- Moisten the sealing cone of the adapter - VAS 6394/3- with clean engine oil and screw it into the fuel distributor.

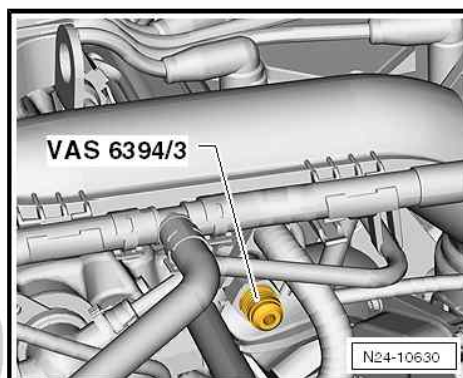
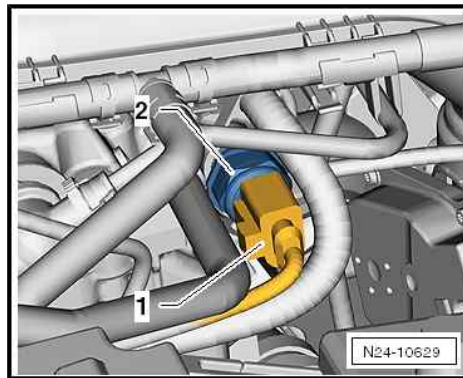
Tightening torque: 22 Nm





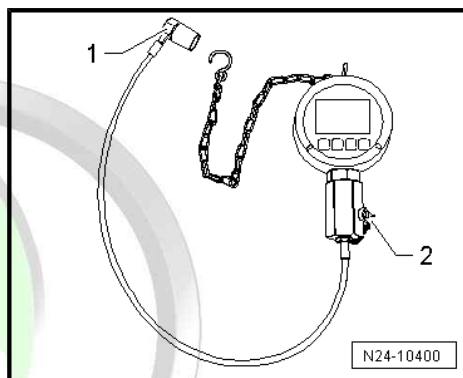
For the vehicles Octavia II, Yeti

- Disconnect plug -1- and remove fuel pressure sender - G247- -2-.
 - Moisten the sealing cone of the adapter - VAS 6394/3- with clean engine oil and screw it into the fuel distributor.
- Tightening torque: 22 Nm

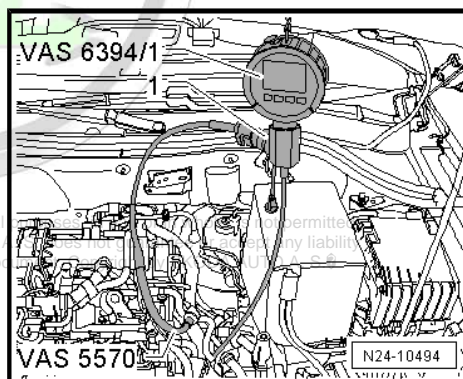


Continued for all vehicles

- Release the screw plug -2- and screw the fuel pressure sender - G247- into the tester - VAS 6394/1- .
- Tightening torque: 22 Nm



- Connect the pressure line -1- of the pressure manometer - VAS 6394/1- to the adapter - VAS 6394/3- .
- Connect the test adapter - VAS 5570- to the fuel pressure sender - G247- -1- and to the engine plug.

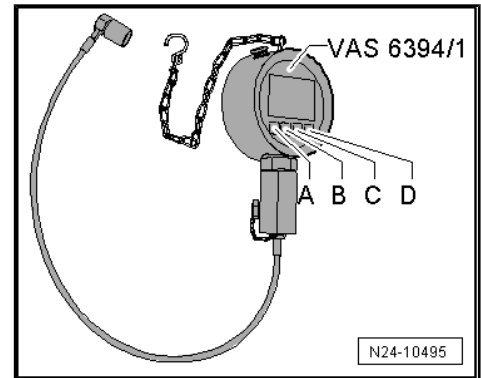


Protected by copyright. Copying for private or commercial purposes without permission is prohibited. ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not accept any liability for the correctness of information in this document.

- Switch on the tester - VAS 6394/1 - , for this step, briefly press the button -A- once.

i Note

- ◆ If the button -A- is pressed for 2 seconds, the illumination is switched on for 20 seconds.
- ◆ If the tester - VAS 6394/1- does not indicate 0 MPa (0 bar), carry out a zero point of the balance by means of the ⇒ *Owner's Manual* .



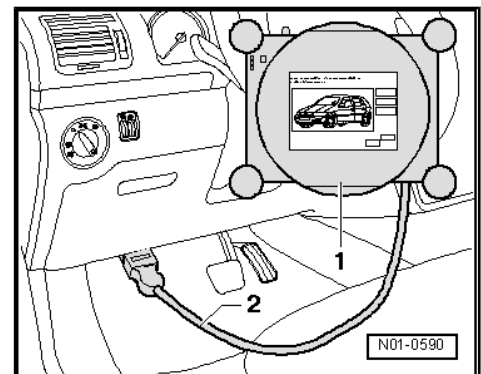
- ⇒ Vehicle diagnostic tester -Connect 1- to the diagnostics connection.
- Switch on ignition.
- On the display press consecutively the following buttons:

Targeted functions

CBZA, CBZB engine (UDS) ►

Reading measured value block ►

The actual value which is transmitted to the vehicle by the fuel pressure sender - G247- is shown in the display field high pressure fuel, actual value.



- Start engine.
- Compare the pressure displayed on the digital pressure gauge - VAS 6394/1- with the actual value on the vehicle diagnosis, measurement and information system - VAS 505X- .
- The pressures may deviate maximum 0.5 MPa (5000 hPa) from one another.

If the deviation is greater than 0.5 MPa (5000 hPa) or (5 bar):

- With the⇒ Vehicle diagnostic testerTargeted function, perform a "Remove high fuel pressure".
- Replace fuel pressure sender - G247- .
- Repeat the test with the new fuel pressure sender - G247- and compare both measured values.

If the measured values do not correspond again:

- Perform a cable testing ⇒ Vehicle diagnostic tester.

Tightening torques

- ◆ Fuel pressure sender - G247-
⇒ "2.1 Assembly overview - intake manifold", page 263 .



7 Engine control unit

⇒ **"7.1 Removing and installing engine control unit J623 (Fabia II, Roomster, Rapid NH)", page 290**

⇒ **"7.2 Removing and installing engine control unit J623 (Octavia II, Yeti)", page 291**

7.1 Removing and installing engine control unit - J623- (Fabia II, Roomster, Rapid NH)



Note

- ♦ *Before replacing the engine control unit - J623- first the control unit identification and hence the coding of the current control unit with the ⇒ Vehicle diagnostic tester must be interrogated.*
- ♦ *If replacing, the throttle valve control unit - J338- must be cleaned
⇒ **"2.3 Cleaning throttle valve control unit J338 ", page 269**
before adapting a new control unit.*

Special tools and workshop equipment required

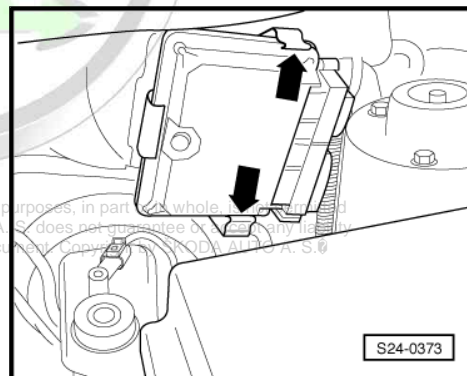
- ♦ Body saw, e.g. body saw - V.A.G 1523/A-

Removing

- Switch off ignition.
- Press the bracket -arrows- outwards and pull the engine control unit out sideways.

For vehicles with protective housing

- Cut with body saw a slot for the cross-head screwdriver in the heads of the pull-off screws.



Protected by copyright. Copying for private or commercial purposes, in part or whole, is prohibited unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee any liability with respect to the correctness of information in this document. Copyright © ŠKODA AUTO A. S.

S24-0373

i Note

It must be sawed twice with the body saw, so that the slot is wide enough, in order to be able to unscrew the screws with a suitable screwdriver.

- Screw out the screws.
- Remove protective cover of control unit.

For all vehicles

- Disconnect plug at engine control unit and unplug.

Installing

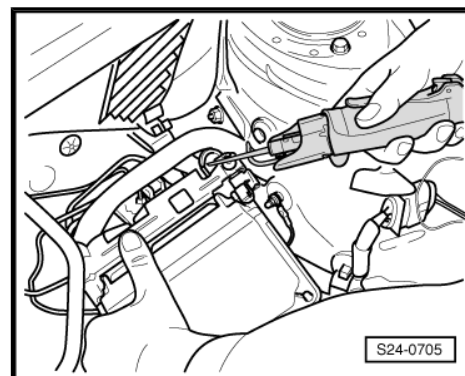
- Connect both plugs and lock.

For vehicles with protective housing

- Insert protective housing and fix with new pull-off screws to engine control unit.

For all vehicles

- Insert the control unit into the pressure retaining clips on the body.
- When replacing the control unit, adapt the engine control unit ⇒ Vehicle diagnostic tester.



7.2 Removing and installing engine control unit - J623- (Octavia II, Yeti)

Special tools and workshop equipment required

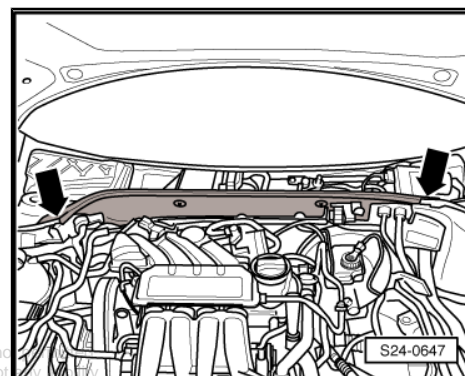
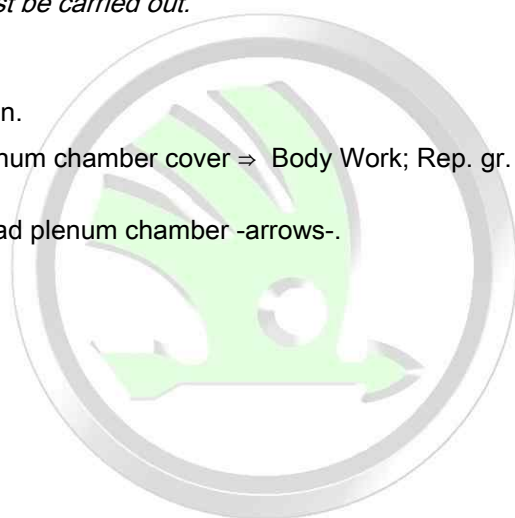
- ◆ Body saw, e.g. body saw - V.A.G 1523/A-

i Note

- ◆ *In order to unplug the plugs from the control unit, the control unit must always be removed.*
- ◆ *If the engine control unit is replaced, the ⇒ Vehicle diagnostic tester must be connected and the function "Replace engine control unit" must be carried out.*

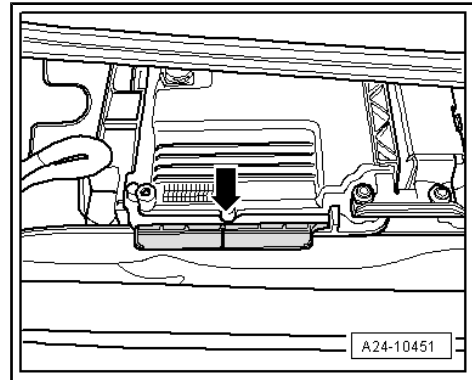
Removing

- Switch off ignition.
- Remove the plenum chamber cover ⇒ Body Work; Rep. gr. 66 .
- Remove bulkhead plenum chamber -arrows-.





- Open retaining clip -arrow- and remove the engine control unit
- J623 - .



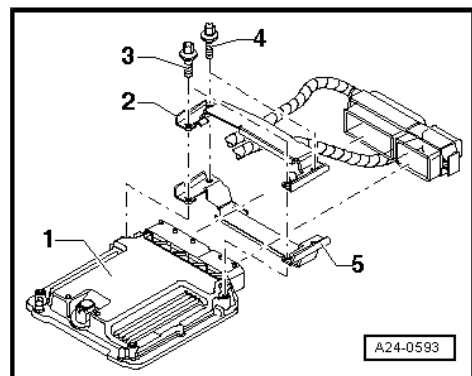
Vehicles with protective cover

- Cut with body saw a slot for the cross-head screwdriver in the heads of the pull-off screws -3- and -4-.



Note

- ♦ *In order to be able to unscrew the screws with a suitable screwdriver, the slot must be wide enough. This is achieved by sawing twice with the body saw.*
- ♦ *The pull-off screws until are inserted with locking agent.*



- Unscrew the screws and remove the protective cover for the plug connections -2- and -5-.

Continued for all vehicles

- Unlock both plug connectors at engine control unit and remove them.

Installing

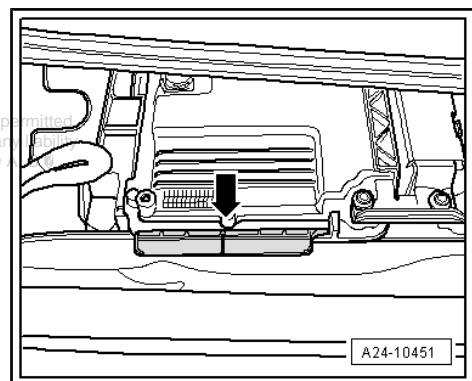
- Connect both plugs and lock.

Vehicles with protective cover

- Fasten protective cover with new pull-off screws.
- Tighten pull-off screws evenly until the screw heads are pulled off.

Continued for all vehicles

- Push engine control unit into the bracket and lock with retaining clip -arrow-.
- Install the plenum chamber cover ➔ Body Work; Rep. gr. 66



26 – Exhaust system

1 Removing and installing parts of the exhaust system

⇒ [“1.1 Overview of components - catalysts and attachments, Fabia II, Roomster, Rapid NH”, page 293](#)

⇒ [“1.2 Summary of components - catalyst and attachments, Octavia II, Yeti”, page 296](#)

⇒ [“1.3 Summary of components - Middle and rear part of the exhaust system”, page 299](#)

⇒ [“1.4 Summary of components - Middle and rear part of the exhaust system, Roomster, Rapid NH”, page 300](#)

⇒ [“1.5 Summary of components - Middle and rear part of the exhaust system Octavia II”, page 301](#)

⇒ [“1.6 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured until 06/10.”, page 302](#)

⇒ [“1.7 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured from 06/10.”, page 303](#)

⇒ [“1.8 Removing and installing catalytic converter with exhaust pipe \(Fabia II, Roomster, Rapid NH\)”, page 303](#)

⇒ [“1.9 Removing and installing catalytic converter \(Octavia II, Yeti\)”, page 305](#)

⇒ [“1.10 Replacing middle or rear part of the exhaust system”, page 306](#)

⇒ [“1.11 Align exhaust system free of stress”, page 307](#)

⇒ [“1.12 Inspecting the exhaust system for leaks”, page 309](#)

1.1 Overview of components - catalysts and attachments, Fabia II, Roomster, Rapid NH



1 - Lambda probe - G39-

- ☐ the thread of new lambda probes must be coated with assembly paste
- ☐ for a re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3-
- ☐ the hot bolt paste - G 052 112 A3- must not come into contact with the slots of the probe body
- ☐ 50 Nm

2 - Nut

- ☐ Replace after removal
- ☐ Coat pin screws of exhaust manifold with exhaust gas turbocharger using hot bolt paste - G 052 112 A3-
- ☐ pay attention to mounting instructions and order for tightening
⇒ [page 296](#)
- ☐ 23 Nm

3 - Catalytic converter with exhaust pipe

Removing and installing
⇒ ["1.8 Removing and installing catalytic converter with exhaust pipe \(Fabia II, Roomster, Rapid NH\)", page 303](#)

- ☐ pay attention to mounting instructions and order for tightening ⇒ [page 296](#)
- ☐ with decoupling element
- ☐ do not twist decoupling element more than 10° - risk of damage
- ☐ Secure the decoupling element against over-tensioning and bending by means of the transport securing device -T10403- .

4 - Seal

- ☐ Replace after removal

5 - Retaining strap

6 - Clamping sleeve

- ☐ Tighten screwed connections uniformly
- ☐ Fitting position ⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)
- ☐ 23 Nm

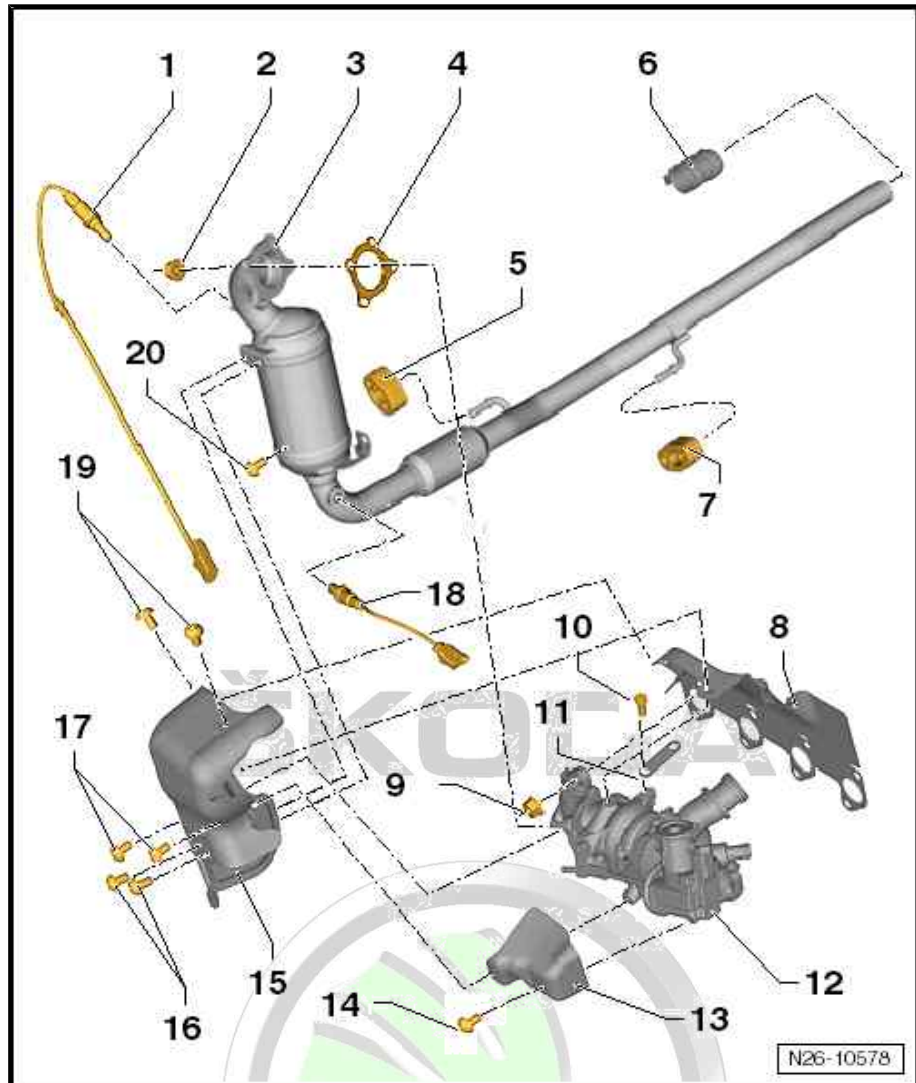
7 - Retaining strap

8 - Seal

- ☐ Replace after removal

9 - Nut

- ☐ Replace after removal
- ☐ Tightening torque and tightening order
⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#)



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.®



Note

- ◆ *Tightening torque pin bolts in cylinder head: 18 Nm*
- ◆ *insert oiled*
- ◆ *replace the pin bolts after unscrewing from the cylinder head*

10 - Screw

- ☐ 20 Nm

11 - Mounting bracket

12 - Exhaust gas turbocharger

- ☐ Removing and installing ⇒ **"1.2 Removing and installing exhaust gas turbocharger", page 248**
- ☐ The exhaust gas turbocharger with charge pressure regulator - V465- and exhaust manifold can only be replaced together

13 - Heat shield

14 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

15 - Heat shield

16 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

17 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

18 - Lambda probe downstream of catalytic converter - G130-

- ☐ the thread of new lambda probes must be coated with assembly paste
- ☐ for re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3- ; the paste must not get into the slots of the probe body
- ☐ 50 Nm

19 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

20 - Screw

- ☐ 25 Nm

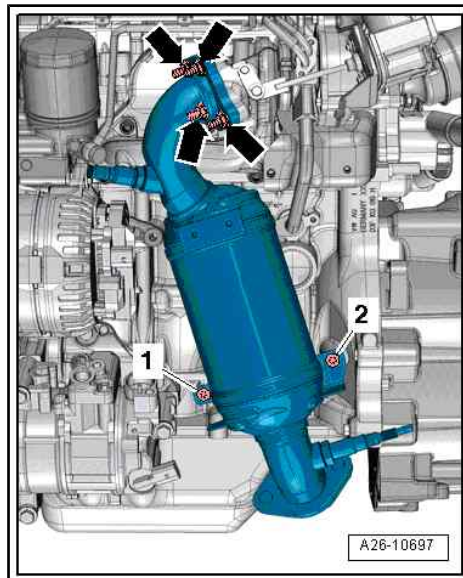
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



Catalytic converter with exhaust pipe - mounting instructions and order of tightening

Tighten nuts and screws in 4 stages:

Stage	Screws/nuts	Tightening torque
1.	-Arrows-	Tighten nuts by hand up to contact surface.
2.	-1-	25 Nm
3.	-2-	25 Nm
4.	-Arrows-	23 Nm



1.2 Summary of components - catalyst and attachments, Octavia II, Yeti

1 - Lambda probe - G39-

- ☐ the thread of new lambda probes must be coated with assembly paste
- ☐ for re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3- ; the paste must not get into the slots of the probe body
- ☐ 50 Nm

2 - Nut

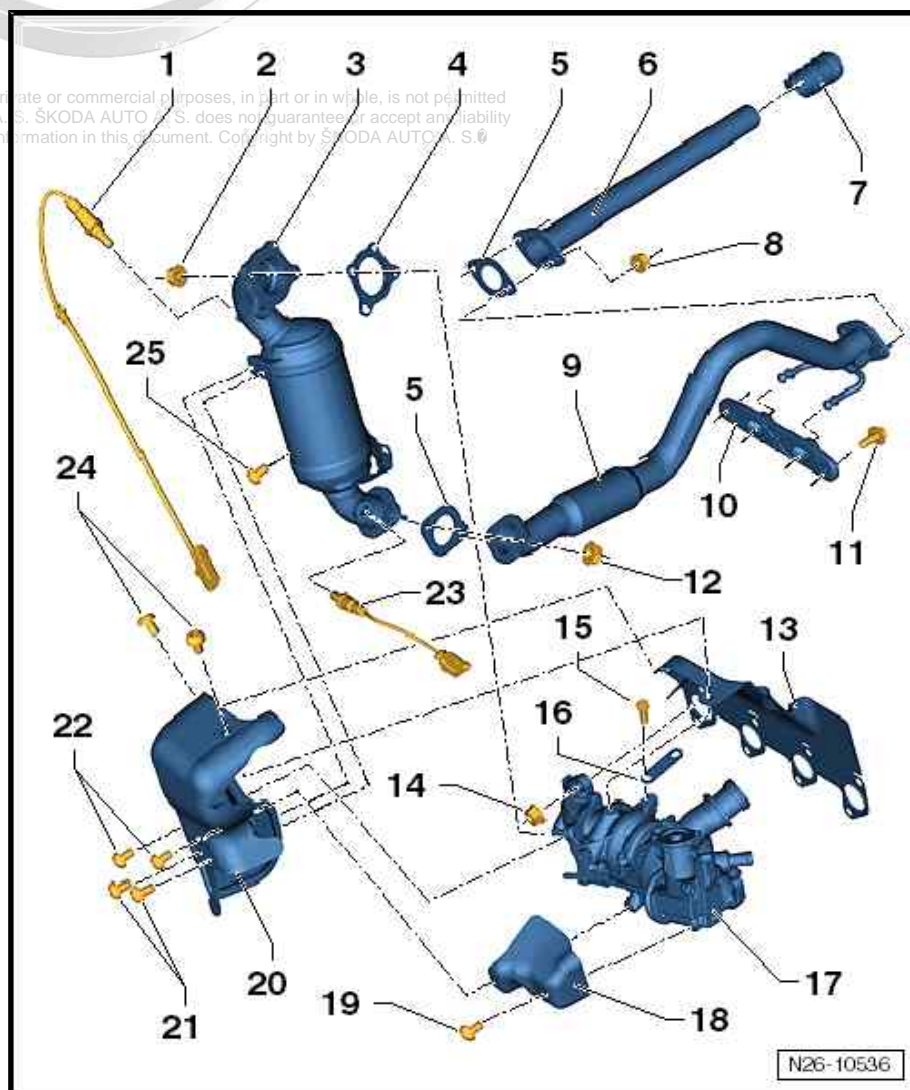
- ☐ Replace after removal
- ☐ Coat stud bolts of the turbocharger with hot bolt paste - G 052 112 A3- .
- ☐ pay attention to mounting instructions and order for tightening
⇒ [page 298](#)
- ☐ 23 Nm

3 - Catalytic converter with exhaust pipe

- ☐ pay attention to mounting instructions and order for tightening
⇒ [page 298](#)
- ☐ Removing and installing
⇒ ["1.9 Removing and installing catalytic converter \(Octavia II, Yeti\)", page 305](#)

4 - Seal

- ☐ Replace after removal



5 - Seal

- ☐ Replace after removal

6 - Intermediate pipe

7 - Clamping sleeve

- ☐ Tighten screwed connections uniformly
- ☐ 23 Nm

8 - Nut

- ☐ Replace after removal
- ☐ 25 Nm

9 - Exhaust pipe

- ☐ with decoupling element
- ☐ do not twist decoupling element more than 10° - risk of damage
- ☐ Secure the decoupling element against over-tensioning and bending by means of the transport security -T10403- .

10 - Suspension

11 - Screw

- ☐ 25 Nm

12 - Nut

- ☐ Replace after removal
- ☐ 25 Nm

13 - Seal

- ☐ Replace after removal

14 - Nut

- ☐ Replace after removal
- ☐ Tightening torque and tightening order
⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#)



Note

- ◆ *Tightening torque pin bolts in cylinder head: 18 Nm*
- ◆ *insert oiled*
- ◆ *replace the pin bolts after unscrewing from the cylinder head*

15 - Screw

- ☐ 20 Nm

16 - Mounting bracket

17 - Exhaust gas turbocharger

- ☐ Removing and installing ⇒ ["1.2 Removing and installing exhaust gas turbocharger", page 248](#)
- ☐ The exhaust gas turbocharger with charge pressure regulator - V465- and exhaust manifold can only be replaced together

18 - Heat shield

19 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

20 - Heat shield

21 - Screw

- ☐ first of all screw in all fixing screws by hand when installing



- ☐ 10 Nm

22 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

23 - Lambda probe downstream of catalytic converter - G130-

- ☐ the thread of new lambda probes must be coated with assembly paste
- ☐ for re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3- ; the paste must not get into the slots of the probe body
- ☐ 50 Nm

24 - Screw

- ☐ first of all screw in all fixing screws by hand when installing
- ☐ 10 Nm

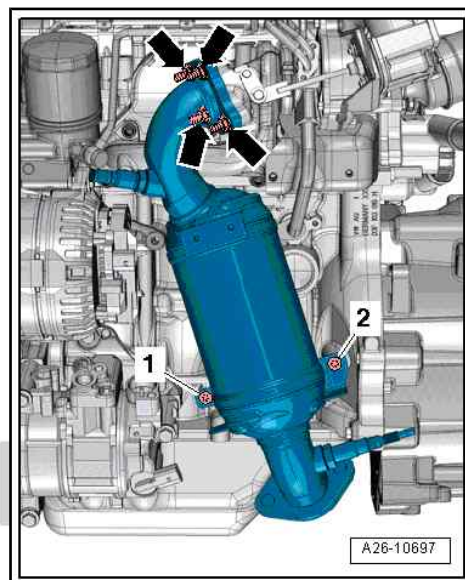
25 - Screw

- ☐ pay attention to mounting instructions and order for tightening ⇒ [page 298](#)
- ☐ 25 Nm

Catalytic converter with exhaust pipe - mounting instructions and order of tightening

Tighten nuts and screws in 4 stages:

Stage	Screws/nuts	Tightening torque
1.	-Arrows-	Tighten nuts by hand up to contact surface.
2.	-1-	25 Nm
3.	-2-	25 Nm
4.	-Arrows-	23 Nm



1.3 Summary of components - Middle and rear part of the exhaust system

1 - Middle and rear silencer

- ☐ for first equipment a building unit
- ☐ Replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension
⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

2 - Separation point

- ☐ for repairs
- ☐ marked with recesses around the circumference

3 - Rear retaining strap

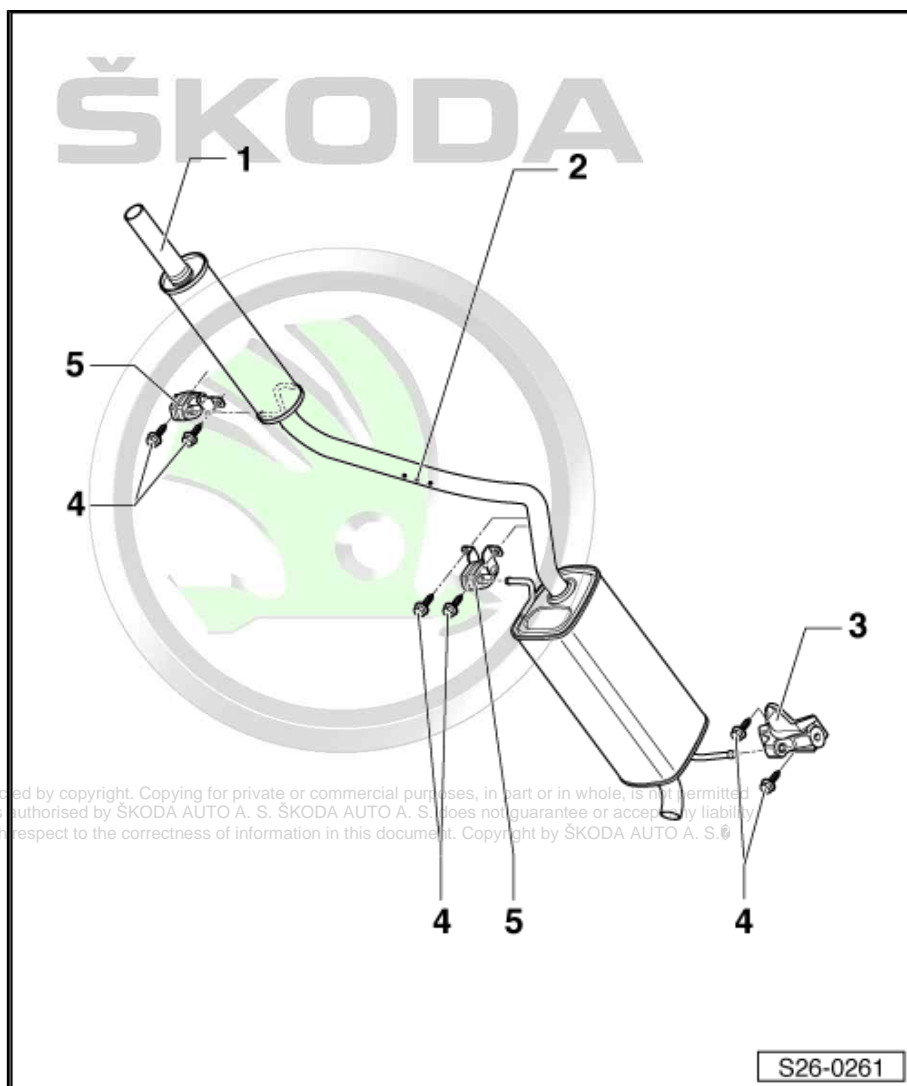
- ☐ Pay attention to the part number
- ☐ replace if damaged

4 - Screw

- ☐ 25 Nm

5 - Retaining strap

- ☐ Pay attention to the part number
- ☐ replace if damaged





1.4 Summary of components - Middle and rear part of the exhaust system, Roomster, Rapid NH

1 - The middle silencer

- ☐ for first equipment building unit with rear silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension
⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

2 - Retaining strap

- ☐ Pay attention to the part number
- ☐ replace if damaged

3 - Screw

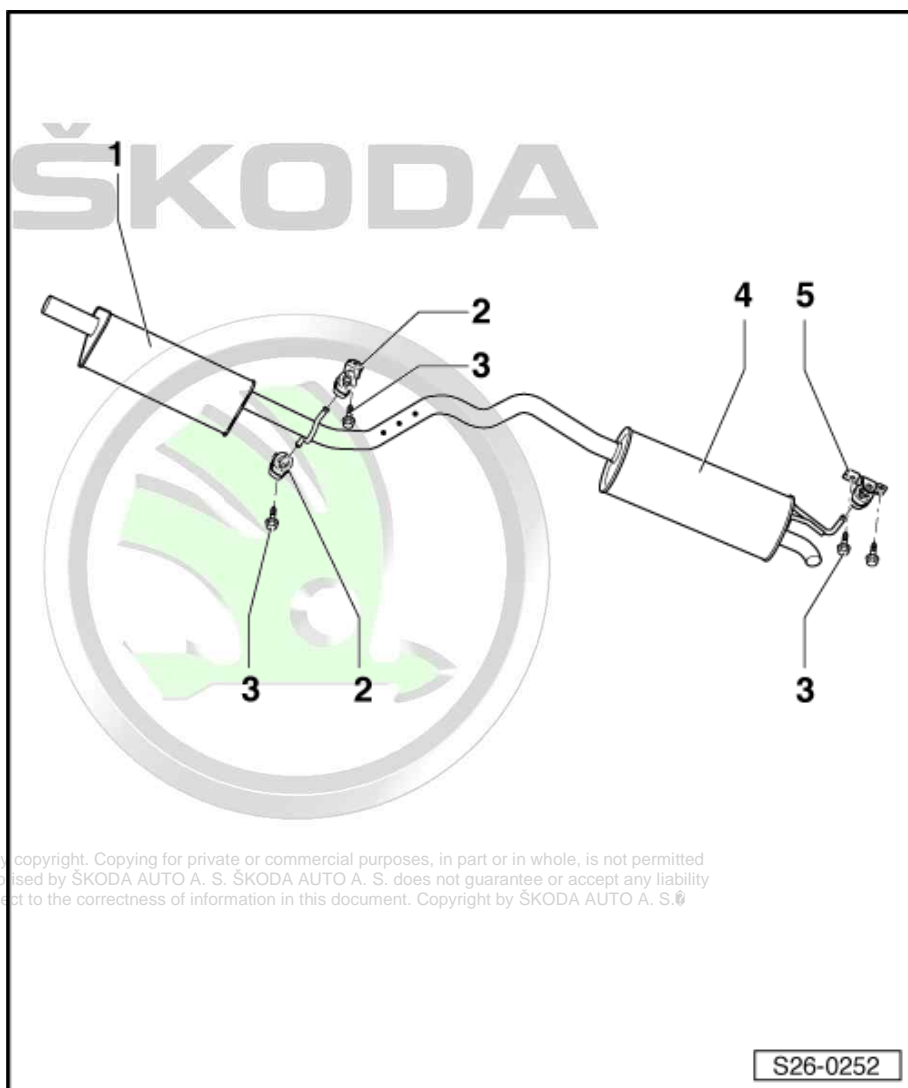
- ☐ 25 Nm

4 - Rear silencer

- ☐ for first equipment building unit with middle silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension
⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

5 - Rear retaining strap

- ☐ Pay attention to the part number
- ☐ replace if damaged



1.5 Summary of components - Middle and rear part of the exhaust system Octavia II

1 - From pre-exhaust pipe with catalytic converter

2 - Suspension

- ☐ replace if damaged

3 - Retaining strap

- ☐ replace if damaged

4 - Screw

- ☐ 23 Nm

5 - Clamping sleeve

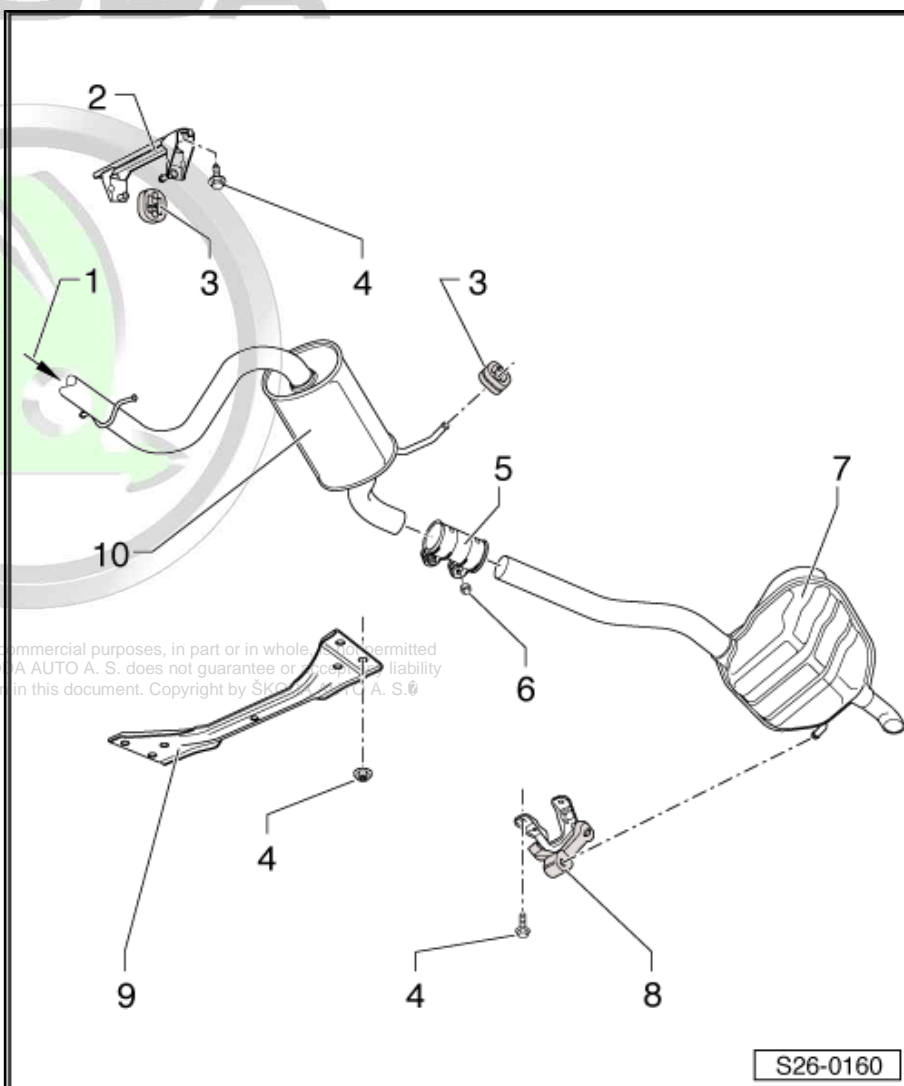
- ☐ Tighten screwed connections uniformly
- ☐ Fitting position
⇒ ["1.10 Replacing middle or rear part of the exhaust system"](#), page 306

6 - Nut

- ☐ 23 Nm

7 - Rear part of exhaust system

- ☐ for first equipment building unit with middle silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension
⇒ ["1.11 Align exhaust system free of stress"](#), page 307
- ☐ Disconnect exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system"](#), page 306



8 - Suspension

- ☐ replace if damaged

9 - Tunnel bridge

10 - Middle part of exhaust system

- ☐ for first equipment building unit with rear silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension ⇒ ["1.11 Align exhaust system free of stress"](#), page 307
- ☐ Disconnect exhaust system ⇒ ["1.10 Replacing middle or rear part of the exhaust system"](#), page 306



1.6 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured until 06/10.

1 - Suspension

- ☐ replace if damaged

2 - Screw

- ☐ 23 Nm

3 - Nut

- ☐ 20 Nm

4 - Tunnel bridge

5 - Retaining strap

- ☐ replace if damaged

6 - Rear part of exhaust system

- ☐ for first equipment building unit with middle silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension ⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system ⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

7 - Suspension

- ☐ replace if damaged

8 - Middle part of exhaust system

- ☐ for first equipment building unit with rear silencer; replace individually when carrying out repairs

- ☐ Installing the exhaust system without tension ⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system ⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

9 - Clamping sleeve

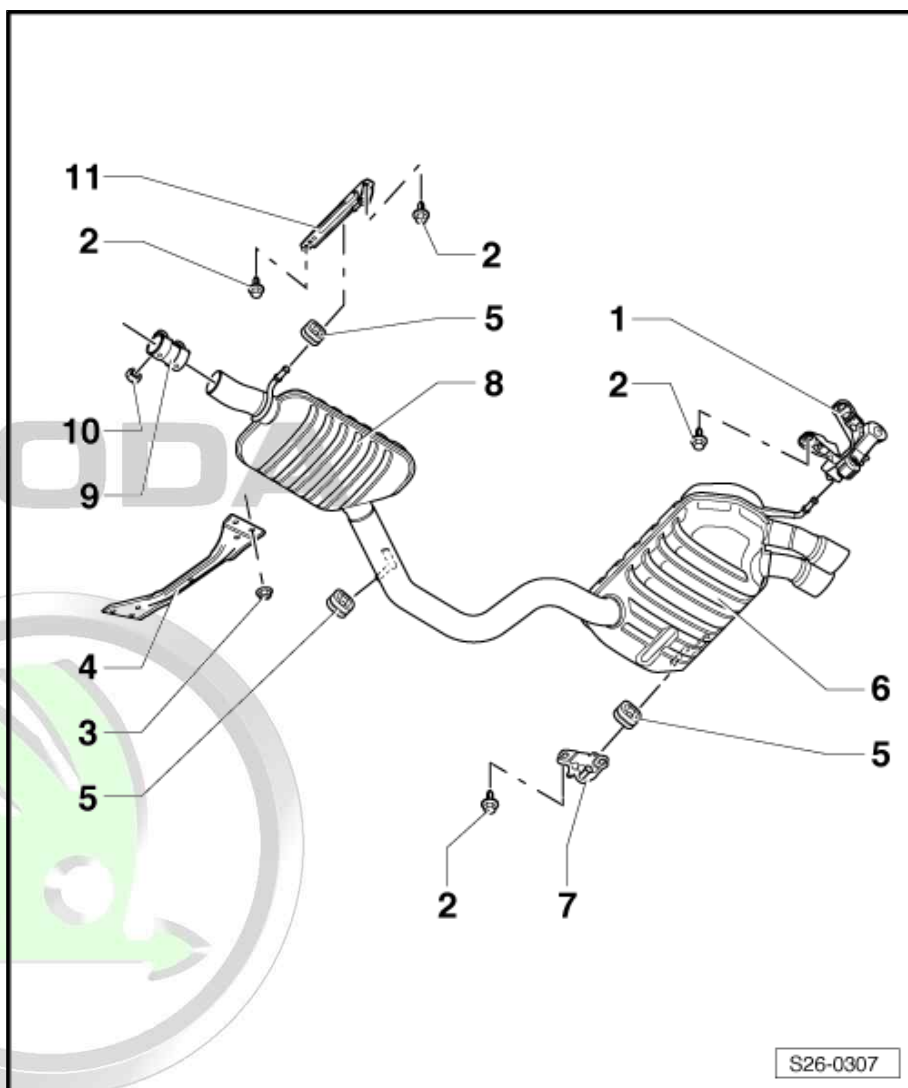
- ☐ Tighten screwed connections uniformly
- ☐ Fitting position ⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)
- ☐ 23 Nm

10 - Nut

- ☐ 23 Nm

11 - Suspension

- ☐ replace if damaged



1.7 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured from 06/10.

1 - Screw

- ☐ 23 Nm

2 - Suspension

- ☐ replace if damaged

3 - Retaining strap

- ☐ replace if damaged

4 - Suspension

- ☐ replace if damaged

5 - Screw

- ☐ 23 Nm

6 - Rear part of exhaust system

- ☐ for first equipment building unit with middle silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension
⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system
⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)

7 - Retaining strap

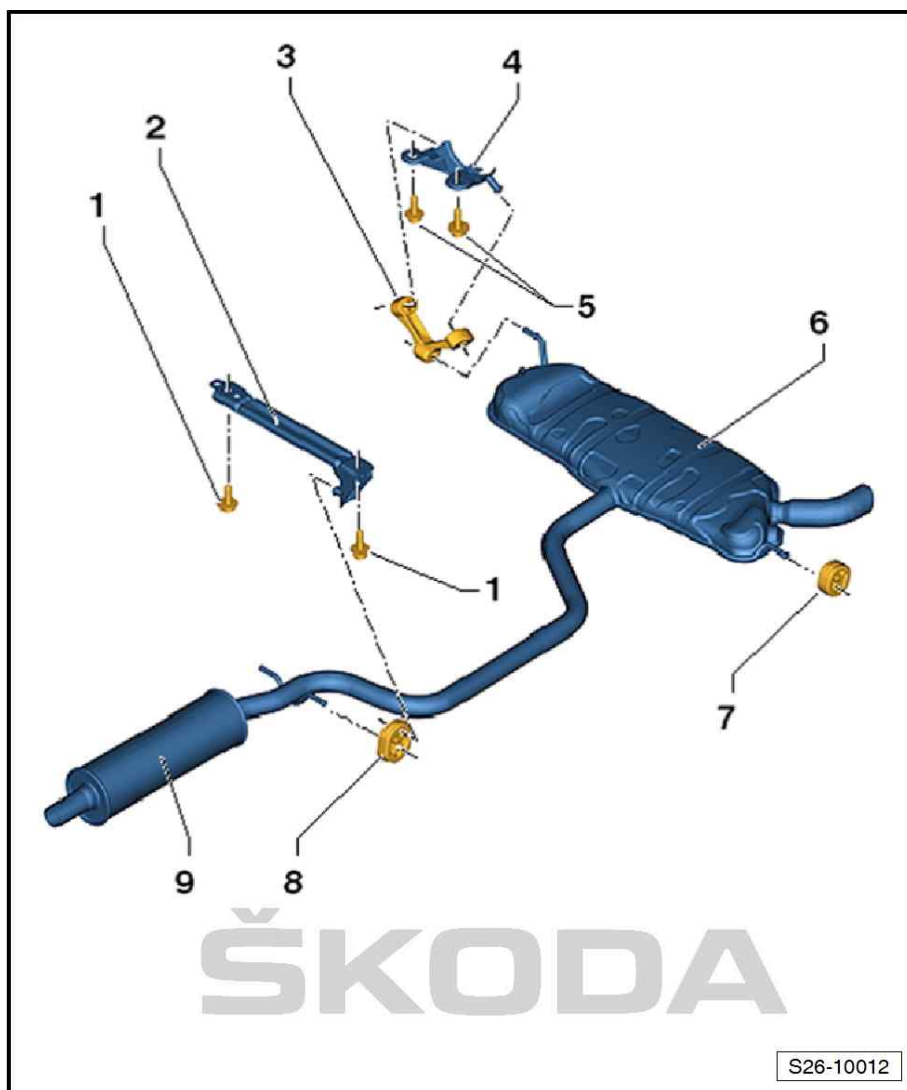
- ☐ replace if damaged

8 - Retaining strap

- ☐ replace if damaged

9 - Middle part of exhaust system

- ☐ for first equipment building unit with rear silencer; replace individually when carrying out repairs
- ☐ Installing the exhaust system without tension ⇒ ["1.11 Align exhaust system free of stress", page 307](#)
- ☐ Disconnect exhaust system ⇒ ["1.10 Replacing middle or rear part of the exhaust system", page 306](#)



1.8 Removing and installing catalytic converter with exhaust pipe (Fabia II, Roomster, Rapid NH)

Special tools and workshop equipment required

- ◆ Lambda probe open ring spanner set
- ◆ Hot bolt paste - G 052 112 A3-

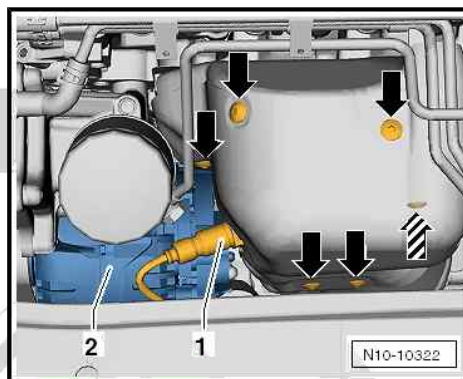
Removing

- Remove V-ribbed belt
⇒ ["1.2 Removing and installing V-ribbed belt", page 37](#)

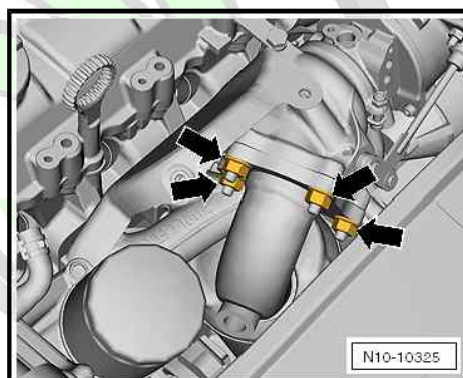
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



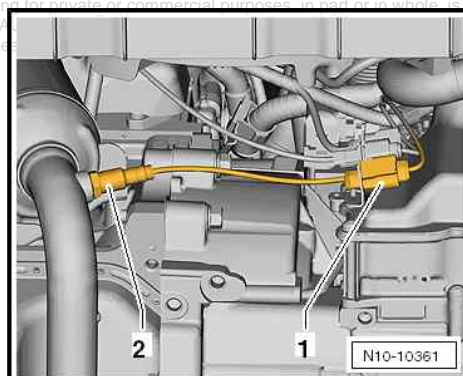
- Remove lambda probe - G39- -1-.
- Unscrew top fixing screw for generator -2- and press the generator downwards.
- Release the fixing screws -arrows- and remove the heat shield.



- Unscrew fixing nuts -arrows-.



- Disconnect plug connection -1- and lambda probe down- stream of catalytic converter - G130- .

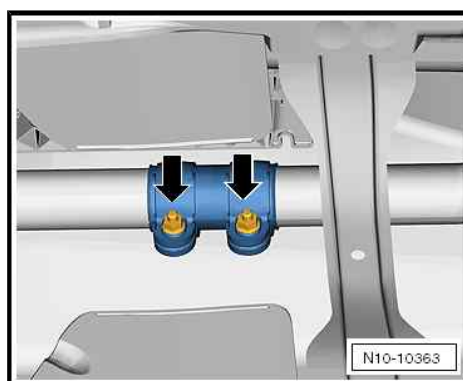


- Loosen the nuts -arrows- at the front clamping sleeve and push the sleeve onto the middle silencer.



Note

- ◆ The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.
- ◆ Do not bend the decoupling element by pulling it.
- ◆ Do not damage the wire mesh of the decoupling element.
- ◆ Secure the decoupling element with the transport lock - T10403- to prevent over-tensioning.



- Unscrew screws -1- of bracket for catalytic converter.
- Take the bolts of the exhaust pipe out of the retaining straps -2- and remove the catalytic converter with the pre-exhaust pipe downwards.

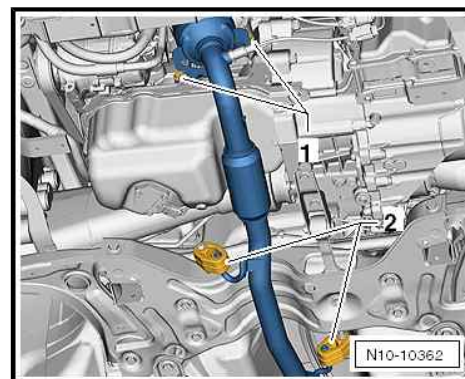
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- ♦ pay attention to mounting instructions and order for tightening
⇒ [page 296](#)

Tightening torques

- ♦ Catalytic converter with exhaust pipe
⇒ [“1.1 Overview of components - catalysts and attachments, Fabia II, Roomster, Rapid NH”, page 293](#)



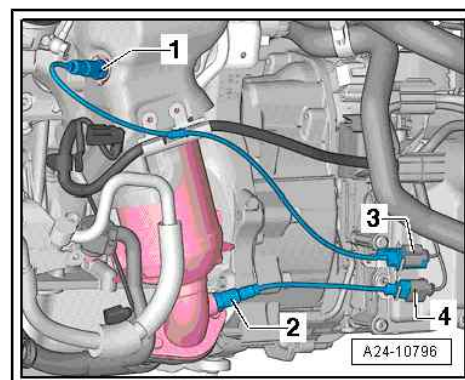
1.9 Removing and installing catalytic converter (Octavia II, Yeti)

Special tools and workshop equipment required

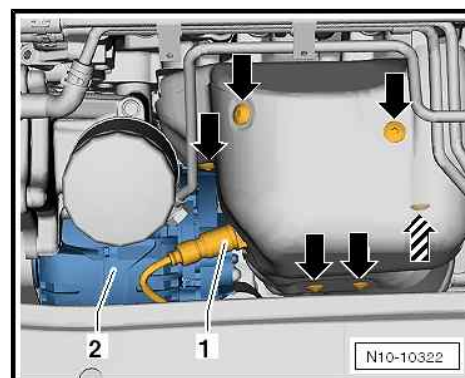
- ♦ Lambda probe open ring spanner set
- ♦ Hot bolt paste - G 052 112 A3-

Removing

- Remove V-ribbed belt
⇒ [“1.2 Removing and installing V-ribbed belt”, page 37](#).
- Take lambda probe - G39- plug connection -3- out of the holder and disconnect.



- Remove lambda probe - G39- -1-.
- Unscrew top fixing screw for generator -2- and press the generator downwards.
- Release the fixing screws -arrows- and remove the heat shield.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©

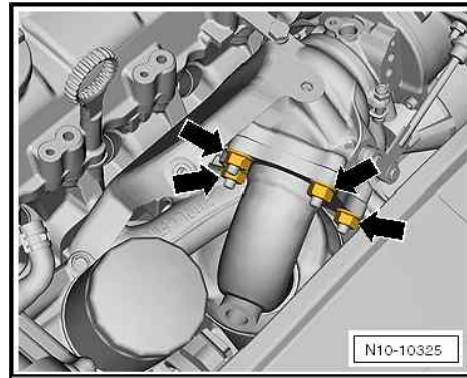


- Unscrew fixing nuts -arrows-.

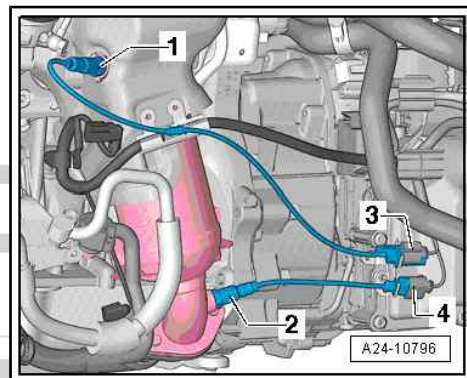


Note

- ♦ *The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.*
- ♦ *Do not bend the decoupling element by pulling it.*
- ♦ *Do not damage the wire mesh of the decoupling element.*
- ♦ *Secure the decoupling element with the transport lock - T10403- to prevent over-tensioning.*



- Take plug connection -4- for lambda probe after catalytic converter - G130- out of the holder and disconnect.
- Remove lambda probe after catalytic converter - G130- -2-.



- Unscrew nuts -2- and pull off exhaust pipe from catalytic converter.
- Release the fixing screws of the bracket -3- and remove the catalytic converter downwards.

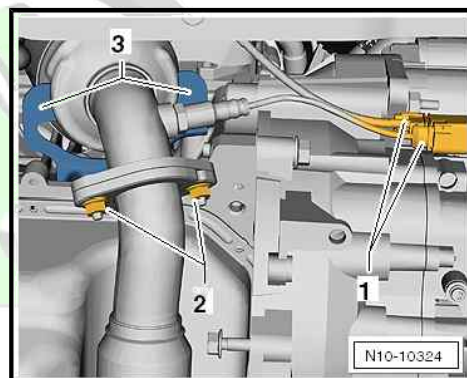
Installing

Installation is carried out in the reverse order. When installing, observe the following:

- ♦ pay attention to mounting instructions and order for tightening
⇒ [page 298](#)

Tightening torques

- ♦ Catalytic converter
⇒ ["1.2 Summary of components - catalyst and attachments, Octavia II, Yeti", page 296](#) .



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for errors or omissions in this document. Copyright by ŠKODA AUTO A. S. ©

1.10 Replacing middle or rear part of the exhaust system

Special tools and workshop equipment required

- ♦ Body saw e.g. -V.A.G 1523 A -
- ♦ Protective goggles



Note

- ♦ *To replace the front or rear silencer individually, a separation point is provided in the connecting pipe.*
- ♦ *The separation point is marked by indentations on the circumference of the exhaust pipe.*

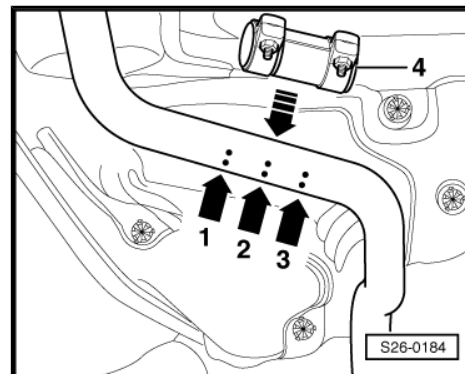


WARNING

To avoid injury from metal shavings, wear eye protection and protective clothing.

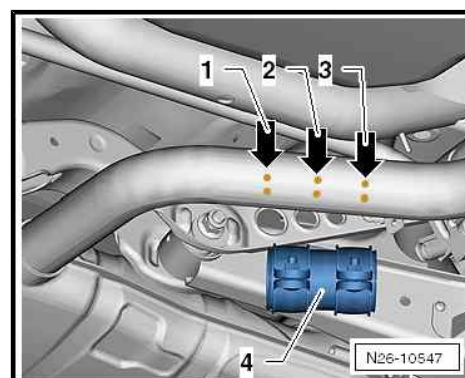
For Fabia II, Roomster vehicles

- Disconnect exhaust pipe at the separation point arrow -2- with body saw (right-angled).
- When installing, position clamping sleeve -4- at the side markings arrow -1- and arrow -3-.



For the vehicles Octavia II, Yeti

- Disconnect exhaust pipe at the separation point arrow -2- with body saw (right-angled).
- When installing, position clamping sleeve -4- at the side markings arrow -1- and arrow -3-.

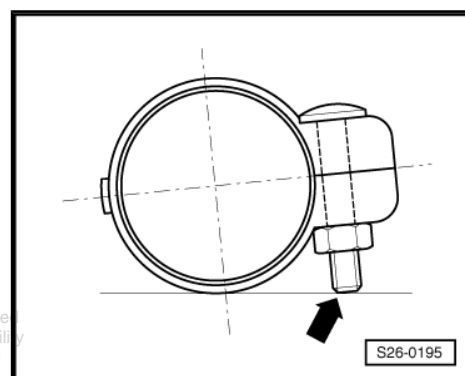


Continued for all vehicles

- Rotate the clamping sleeve so that the screw ends -arrow- do not protrude beyond the lower edge of the clamping sleeve.
- Align exhaust system in cold condition free of stress
⇒ **“1.11 Align exhaust system free of stress”, page 307**.
- Tighten the clamping sleeve to the specified tightening torque.

Tightening torques

Component	Tightening torque
Clamping sleeve	23 Nm

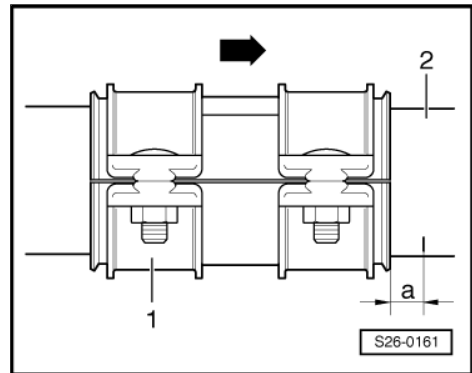


1.11 Align exhaust system free of stress

- The exhaust system is aligned when cold.

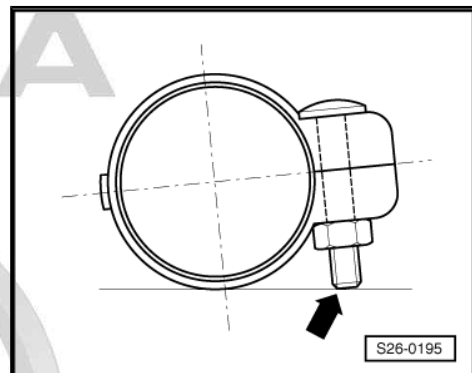


- Slacken the nuts at the clamping sleeve -1- and align the intermediate pipe -2- (-arrow- points in direction of travel).
- a- = 5 mm



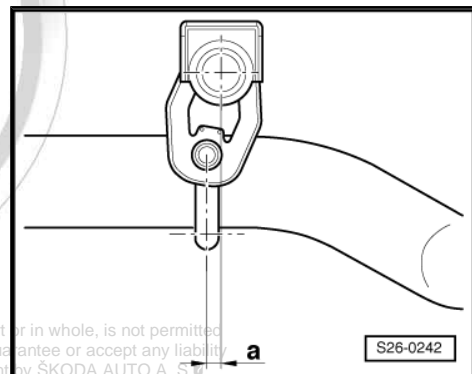
The fixing screws must be located on the right. The screws must not protrude beyond the bottom edge of the clamping sleeve -arrow-.

- Tighten the front nut by hand.



For Fabia II, Roomster vehicles

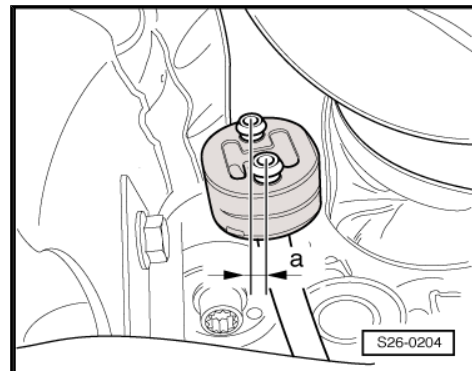
- Push the middle and rear silencer forward until the dimension -a- = 3 ... 7 mm is obtained on the retaining strap/middle silencer.
- Tighten nuts of clamping sleeve evenly to 23 Nm.



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

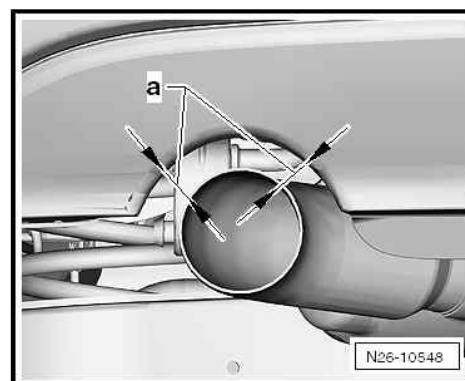
For the vehicles Octavia II, Yeti

- Push the exhaust system so far forward until the dimension -a- of 7...9 mm is achieved between hanger/body and hanger/middle silencer.
- Tighten nuts of clamping sleeve evenly to the prescribed tightening torque.



Align the exhaust tailpipe version I

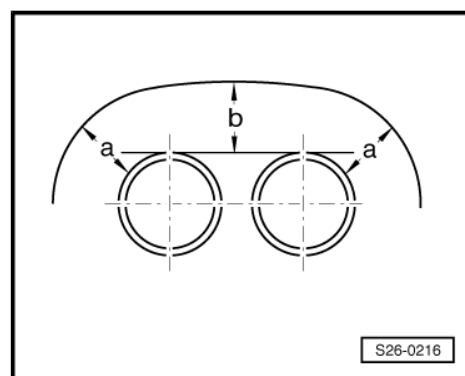
- Align rear silencer in such a way that there is an equal distance -a- right and left between bumper opening and exhaust tailpipe.
- For centering the exhaust tailpipe, if necessary loosen the suspension of the rear silencer.



Align the exhaust tailpipes version II

- Align exhaust tailpipes in such a way that there is
 - an equal distance -a- between bumper opening and exhaust tailpipe.
 - the distance -b- from the bumper opening to the exhaust tailpipes is equal.

For aligning, if necessary the hangers of the exhaust system must be loosened.



Tightening torques

- ◆ Exhaust pipe suspensions for Octavia II
⇒ [“1.5 Summary of components - Middle and rear part of the exhaust system Octavia II”, page 301](#) .
- ◆ Yeti exhaust pipe suspensions to 06/10
⇒ [“1.6 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured until 06/10.”, page 302](#) .
- ◆ Yeti exhaust pipe suspensions from 06/10
⇒ [“1.7 Overview of components - Middle and rear part of the exhaust system for Yeti vehicles manufactured from 06/10.”, page 303](#) .

Component	Tightening torque
Clamping sleeve	23 Nm

1.12 Inspecting the exhaust system for leaks

- Start engine and run in idle.
- Seal off exhaust tailpipes for the duration of the leak check (e.g. with cloth or plug).
- Inspect connection points of cylinder head/exhaust manifold, exhaust gas turbocharger/exhaust pipe etc. for tightness by listening and visual inspection.
- Eliminate any leak found.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



28 – Ignition system

1 Ignition system

⇒ [“1.1 Assembly overview - ignition system”, page 310](#)

⇒ [“1.2 Removing and installing the engine speed sender G28”, page 311](#)

1.1 Assembly overview - ignition system

1 - Cable guide

2 - Screw

- 8 Nm

3 - Cap

- mounted up to 10.2011
- the cover for the ignition leads is installed as of 11.2011

4 - Connector

5 - Hall sender - G40-

- Check O-ring for damage
- O-ring is not available separately; in the event of damage, replace together with Hall sender - G40- .

6 - Screw

- 10 Nm

7 - Ignition cable with spark plug connector

- as of 11.2011 with protective tube
- Remove the spark plug connector from the spark plugs using the extractor - T10112 A- .

◆ D ignition transformer = ignition cable cyl. 1

◆ B ignition transformer = ignition cable cyl. 2

◆ C ignition transformer = ignition cable cyl. 3

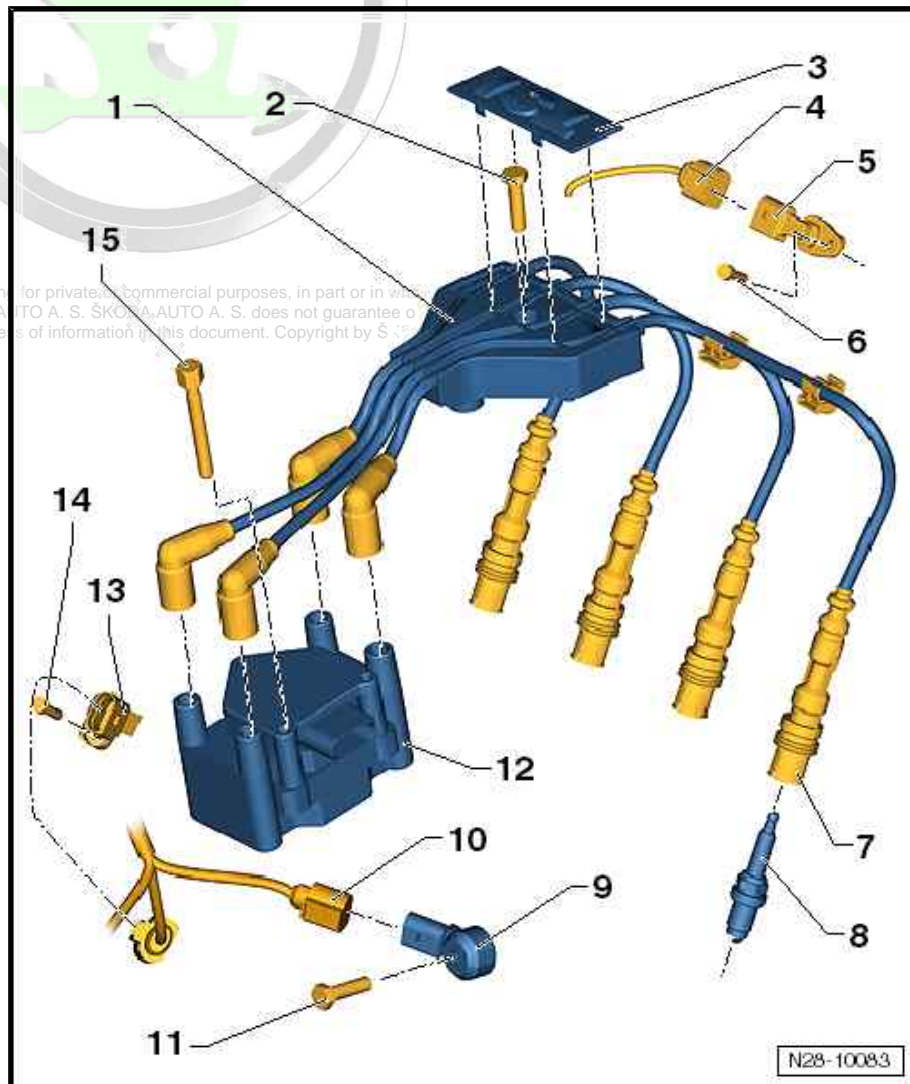
◆ A ignition transformer = ignition cable cyl. 4

8 - Spark plug

- use spark plug wrench - 3122 B- for removing and installing
- 25 Nm

9 - Knock sensor 1 - G61-

- at rear cylinder block



10 - Connector

11 - Screw

- ☐ The tightening torque influences the knock sensor function
- ☐ 20 Nm

12 - Ignition transformer - N152-

- ◆ D ignition transformer = ignition cable cyl. 1
- ◆ B ignition transformer = ignition cable cyl. 2
- ◆ C ignition transformer = ignition cable cyl. 3
- ◆ A ignition transformer = ignition cable cyl. 4

13 - engine speed sender - G28-

- ☐ Removing and installing ⇒ ["1.2 Removing and installing the engine speed sender G28", page 311](#)

14 - Screw

- ☐ 5 Nm

15 - Screw

- ☐ 7 Nm

1.2 Removing and installing the engine speed sender - G28-

Special tools and workshop equipment required

- ◆ Socket - T10370-

Removing

- Disconnect plug -arrow- from engine speed sender - G28- .
- Unscrew fixing screw of engine speed sender - G28- with socket insert - T10370 - .
- Remove engine speed sender - G28- from cylinder block.

Installing

Installation is carried out in the reverse order.

Tightening torques

- ◆ Screw for engine speed sender - G28-
⇒ ["1.1 Assembly overview - ignition system", page 310](#) .

